CU AMIGA

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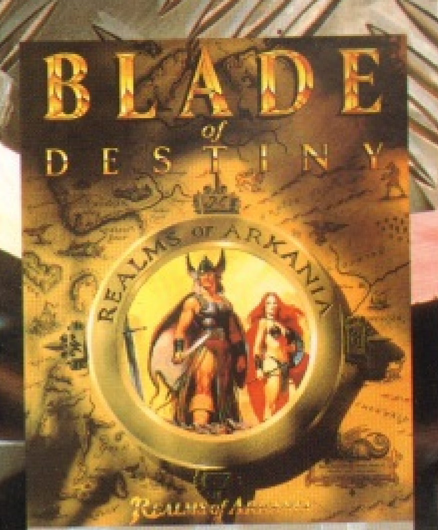
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VIDEO TITLING ON THE AMIGA – NEW COLUMN STARTS INSIDE • SYNDICATE – FIRST REVIEW OF BULLFROG'S LATEST EPIC • THIS MONTH'S BUYER'S GUIDES: DTP SOFTWARE & JOYSTICKS • CREATE YOUR OWN PACMAN GAME WITH AMOS • VISTA PRO 3.0 – MAKING MOUNTAINS ON YOUR AMIGA • ISHAR 2 – SILMARIL'S STUNNING NEW RPG • GVP'S BOSS SPEAKS OUT IN THE CU AMIGA INTERVIEW • PLUS LOTS MORE



HEAVY



REALMS OF ARKANIA, VOL. 1

Blade of Destiny, from the 'Realms of Arkania' world is based on Germany's most successful role-playing series and has a myriad of features that make this RPG one massive challenge.

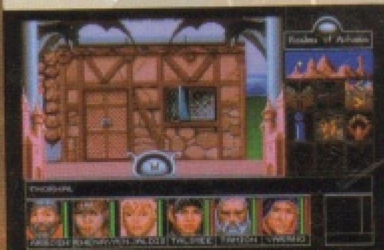
Over 400 hours of gameplay.

Stunning graphics.

- 2 levels of difficulty, which really do cater for both novice and expert RPG gamers alike.
- 12 different races, inhabiting over 50 towns and villages.

Available on:

Amiga, Atari ST and PC & Compatibles (VGA - 640k min memory. Hard Drive, High Density. Supports AdLib™ and SoundBlaster).







EXPERIENCE A MILESTONE IN ARCADE ADVENTURE

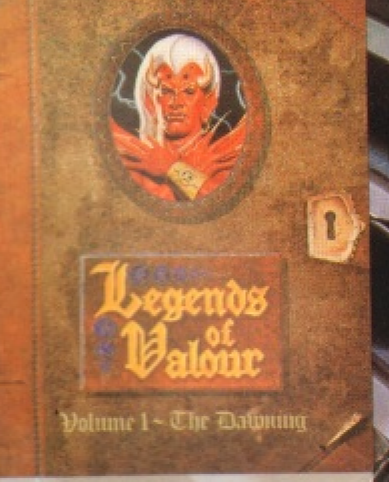
Fast moving action and adventure feature in this unique combination of graphics, animation and music. Produced by Delphine Software, one of Europe's most respected development houses.

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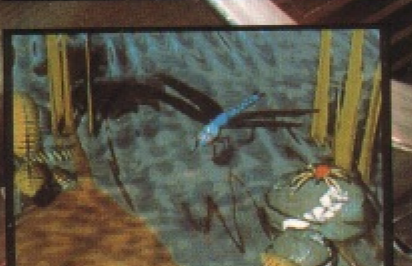
- Smooth scrolling, texture mapped 3-D viewpoint.
- Autocombat facility.
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"Probably one of the most talked about games by Magazine reviewers this year."

Available on:

Atari ST, Amiga and PC & Compatibles (VGA,MCGA, minimum memory 640k, High Density Disk Drive required. Supports AdLib™, SoundBlaster and Roland Sound Cards).





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Whether you're a wizard with words or you spell Xylophone with a Z, you'll love this magical piece of programming from U.S. Gold. Scrabble for your screen.

Challenge up to 3 friends or take on the might of the computer solo.

12 skill levels to test seasoned pro's or first timers alike.

Contains every single page of the Chambers Official Scrabble Dictionary - over 134,000 words!

Print out facility to retain final board layout.

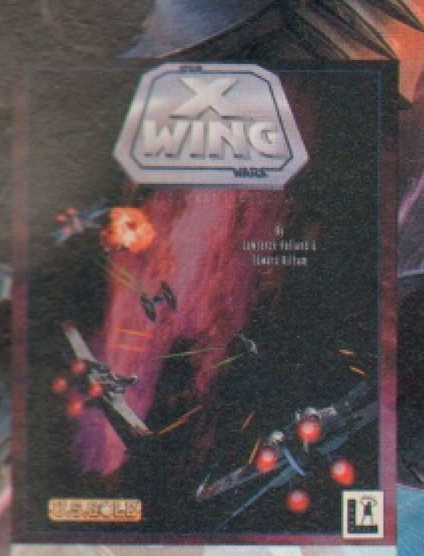
Computer Scrabble - for those who enjoy a night on the tiles.

Available on:

Atari ST, Amiga and PC & Compatibles (EGA, VGA, minimum memory required 640k. Supports AdLib™ and SoundBlaster).



METAL

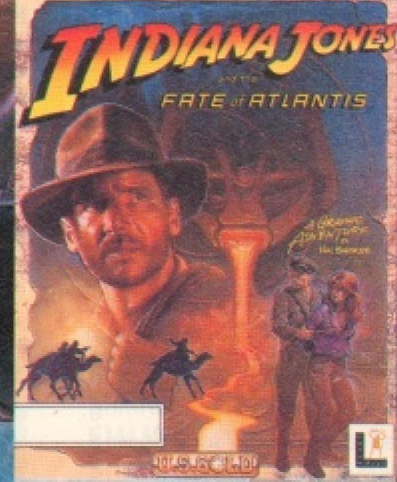


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Climb into the cockpit of an X-Wing Starfighter and battle for freedom. The galaxy is being plundered by the Dark Side, and you are desperately needed by the Rebel Alliance. Take the controls of the X-Wing Starfighter - now! Experience the incredible realism of polygon graphics and bit-mapped special effects as you fly against deadly TIE Fighters and menacing Star Destroyers. Be swept along by the interactive musical score and digitized Star Wars movie sound effects. At last, a new generation of space combat technology to challenge the evil Empire. Destroy the Emperor's ultimate weapon and end his tyranny.

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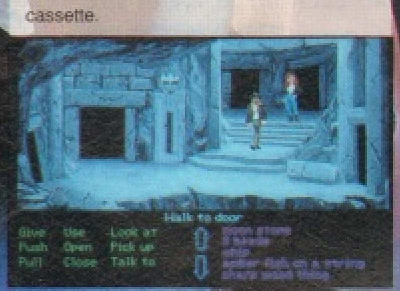
Individually, they're the hottest property this side of Atlantis. Together, they're the ultimate Indy Experience.

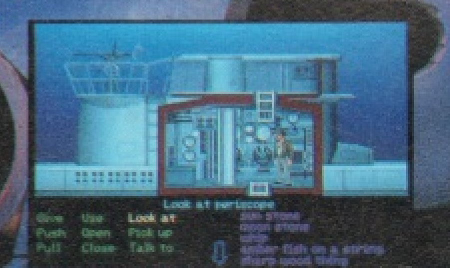
Action & Adventure Available on:

Amiga and PC & Compatibles (EGA, VGA, MCGA, 640k required. Hard Drive, High Density. Supports AdLib™, SoundBlaster and Roland Sound Cards).

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Atari ST, Amstrad (128k only) & C64 cassette & disk, Spectrum (128k only) cassette.





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SCREEN SHOTS ARE ONLY INTENDED TO BE ILLUSTRATIVE OF THE GAMEPLAY AND NOT THE SCREEN GRAPHICS WHICH MAY VARY CONSIDERABLY BETWEEN DIFFERENT FORMATS IN QUALITY AND APPEARANCE AND ARE SUBJECT TO THE COMPUTERS SPECIFICATIONS.

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The award winning external disk drive which includes Anti-Click (cures that annoying click), Virus Blocker (prevents viruses) and built-in Backup hardware.

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DOCUMENT FEEDER...............£399

A600 MEMORY CARD

1MB RAM with battery backed clock

A600 1MB RAM £39.95

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Our RAM board is designed especially for the A500+ computer and comes with 1MB of RAM on-board to expand your memory to 2MB of chip RAM (fits in the trap-door).

PC501+ MEMORY CARD £35.95

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4 Chip 512K RAM expansion with or without battery backed clock.

Free software included (A500+ compatible)

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A500 8MB POWERBOARD £289
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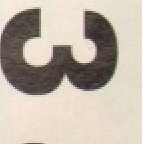
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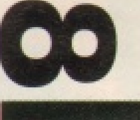
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CU AMIGA

CONTENTS





REGULARS

OFF THE CUFF

EDITORIAL


Dan Slingsby – Editor

As we reported in the last issue of CU AMIGA, Full Motion Video has finally come to the Amiga. This exciting breakthrough, at a fraction of the cost of other systems, has far reaching implications for most Amiga users. Not only will you be able to manipulate data in completely new ways, but you'll also be able to view the latest Schwarzenegger movie via your computer as well as playback video CDs and the like. With Commodore putting the final touches to their new generation of CD machines, you'll soon be able to play the game, watch the movie and listen to the hit single all from the same entertainment system. For more information, turn to the start of our lead feature on page 28.

In other news, Commodore International have posted record losses of $177.6 million for the quarter ending March 31st. As well as an operating loss of $42 million, another $135 million has been written off due to the radical restructuring of the company. Of this, almost $65 million accounts for writedowns on the value of old 16-bit technology as well as a scaling down of their US operations. It's not as ominous as it sounds, however, as Commodore's new flagship machine, the A1200, has been selling in record numbers (especially in the UK), and the imminent launch of their new CD-based games machine will further reinforce their market share. More news on page 8.

Elsewhere in the mag, we've got a full four-page review of Bullfrog's latest game, *Syndicate*, starting on page 48. This is one of the most violent games ever released on the Amiga, with a body count in the stratosphere. Alongside this, we've also blagged an exclusive interview with the boss of GVP, Gerrard Bucas, who's got some pretty interesting views about the Amiga. And as if that little lot wasn't enough to whet your appetite, there's also our comprehensive Amiga Workshop section wherein we present step-by-step guides to all the most popular programs on the Amiga.

So what are you waiting for? Don't take my word for it, dive in and see for yourself. See you next month.

NEXT ISSUE ON SALE 19TH JULY

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ABC 96, 235 July-Dec 1992

GET SERIOUS

PRODUCTIVITY REVIEWS PRODUCTIVITY REVIEW

The best just got better! Enhance your sampling capabilities with DSS8+. We take an exclusive look on page 117. Plus, the first external high density floppy drive receives the full treatment on page 109. The buyer's guides continue with DTP and joysticks coming under the microscope on pages 124 and 128.





Here it is, the first external high density drive. It's small, it's rectangular and it's beige. But is it any good? Find out all there is to know, and then some, on page 109.



Reality has never looked so good – that's why it's fractal. Generate your own worlds with *Fractuality 2*. John Kennedy spills the beans on page 100.

SCREEN SCENE

GAME REVIEWS GAME REVIEWS GAME REVIEWS

It's the game that you've all been waiting for. Will Bullfrog's latest be their greatest? Find out when you join the *Syndicate* on page 48. It's also time to return to role player's heaven with the long-awaited sequel to *Ishar*. We bring you full reviews. Still worried about the lack of A1200 games? Fear not as two of the hottest Amiga games, *Robocod* and *Body Blows*, get enhanced.



Let all your control fantasies run free with *Syndicate*. Join Mark Patterson in his quest to control the universe on page 48.



Venture into the inhospitable deserts of *Dune* with Tony Gill on page 66. But don't let him hog all the water.

COVERDISKS

There's treats galore on this month's two amazing coverdisks. With WMS, the latest Virus Checker and tools for hard drive users and disk compilers, plus an exclusive look at a chart topping sim and Team 17's latest game there really is something for everyone. Don't miss out.

DISK 60 — PAGE 16

Fed up with that boring old Workbench? Can't handle all those files? Then this coverdisk is for you. *Workbench Management System* is a simple to use yet powerful utility that provides you with a whole host of tools to make interaction with Workbench as easy as pie. *WMS* allows you to manipulate files, archive data, and keep track of all those important events and appointments. In addition, there's a text editor for simple word processing, two telephone books for business and personal use, an archiver for file compression and an info function that gives you the gen on error codes and DOS commands. Best of all, *WMS* is completely user-configurable so you can add your own utilities. PLUS, disk 60 also comes with the latest Virus Checker and a couple of useful programs for hard drive users and disk compilers.



DISK 61 — PAGE 21

Megalomania receives a new treatment this month with a fully playable demo of Ascon's chart topping trading game. After a stunning six-month run at the top of the German charts it's finally made it to the UK game scene. Will it do the same here? Find out as you venture back to mediaeval Germany to take control of a member of the Hanseatic League, Europe's first trading community. It's your job to progress through the League in an attempt to gain absolute control by becoming the Patrician. In our exclusive demo you'll be able to take a look around the town, visiting the various shops and banks, before recruiting a crew to undertake your first trading assignment. If you want to play dirty that's up to you as all manner of devious tricks are available. Also up for testing is a circuit from Team 17's new racing game, *F1 Challenge*. Start your engines.



CU NEWS

COMMODORE ANNOUNCE HEAVY LOSSES



Commodore International have just announced heavy third quarter losses amounting to $177.6 million, bringing the year's deficit to $273.6 million! This compares against the same period last year when the company reported a profit of $49.5 million.

Sales fell from the $770.3 million which was recorded for the nine-month period up to March of last year, to $517.2 million for the same period this year.

In the U.S.A. third party manufacturers also saw the value of their stocks slump when the news was announced, but after the initial shock, it seems that the market has now settled down.

One American industry pundit commented 'Well, it's a good idea for Commodore to clear the decks now so that they can build upon their new machines, rather than operating under the shadow of their old stock.'

It seems that our source was referring to Commodore's recent restructuring of their product lines due to the release of the two A4000 machines and the ultra low cost A1200. These releases have brought about the drastic devaluation of its older machines, particularly the A500, A600, A3000 and CDTV which have plummeted to less than 60% of their former value in some cases.

This has not been helped by the harsh economic climate, which has been particularly severe in Germany, traditionally one of Commodore's largest markets.

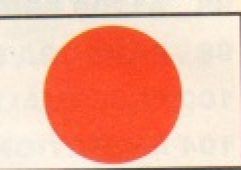
A sustained assault from the consoles, particularly the Sega Megadrive and Super Nintendo, to say nothing of the continued dominance of the PC market, has also eroded Commodore's market share at a time when they were already under heavy industry pressure to discount their machines.

NEW VISTAS

Meridian Distribution have moved in to fill part of the vacuum left by the demise of DMI Plc (formerly HB Marketing). They are now the prime distributors for Virtual Reality Laboratories' Vista products (*Vista Pro 3.0, Make Path* and *Terraform*). They will also be handling their less well known *Distant Suns* astronomy program.

Although Meridian already distributed a number of ASDG (makers of *Art Department Professional*) products they will be expanding their range and will even be selling such specialist items as £100 drivers for the Epson GT6500 colour scanner. They may even be stocking the scanners, too, although nothing has been fixed in that regard. Contact Meridian on 081 543 3500.

PSYGNOSIS TURNS JAPANESE



Japanese electronic giants, Sony, have finally ended weeks of industry speculation by formally announcing the acquisition of Psygnosis.

Sony, who were looking for a base for their European operation, were first rumoured to by eying up the Liverpool-based software house back in January. According to Psygnosis MD Jonathon Ellis this doesn't spell the end of the company as we know it: 'Working together with a company of Sony's reputation will allow us to build and develop further our reputation as pioneers of CD technology.'

The prospects for software do look very good indeed. Amongst other things Sony own Columbia Pictures and have their own record label, Sony Music. This means we're almost guaranteed to see several games based around their big grossing films and no copyright hassles when it comes to including soundtracks. Current Sony titles on their Imagesoft label include Bram Stoker's Dracula, Sylvester Stallone's Cliffhanger and The Last Action Hero, all of which are coming out on various CD formats.

Psygnosis confirmed that they will be continuing to develop for disk-based machines, and, as we predicted two issues ago, both *Cliffhanger* and *The Last Action Hero* are making it to the Amiga.

SCALA CROSSES THE LINE

Multi-media presentation specialists, Scala UK, are working in conjunction with distributors Meridian to offer Scala Professional 1.0 owners a great value upgrade offer!

Scala Pro 1.0 was bundled with a large number of A3000 packs, but when Commodore released the A4000 they sold off their surplus Scala stocks at bargain basement prices.



For only £14.95, 1.0 owners can send back their existing disks in exchange for which they'll receive Scala Pro 1.13. Although Scala Pro is aimed at professionals on a budget (unlike the £500 Scala multimedia package) it still normally retails for a substantial £199.95.

The latest version includes fixes for all known bugs in the earlier program and also includes support for IFF sound samples and tunes saved in .mod format (such as those produced by Soundtracker compatible programs). Scala Professional 1.13 also produces much smoother transitions and wipes thanks to its improved screen algorithms. Find out more by ringing 081 543 350

STAR PRICES TUMBLE

Although they apparently captured over 24 per cent of the total dot matrix printer market in 1992/93 Star are clearly looking to the future with discounts on two of their colour printers. At £219, the LC-100 was already the cheapest colour dot-matrix printer available, yet Star have decided to go a step further, discounting it to £199, a reduction of £20. The up-market 24 pin LC24-200 colour has undergone a slightly more modest price cut of £16 bringing it down to £333. Contact Star on 0494 471111.



DREDD AGAIN



Console giants Acclaim are rumoured to have picked up the rights to what could be the biggest movie blockbuster of 1994 – *Judge Dredd*.

Details are scarce at the moment but the film, which is scheduled to start shooting later this year, is said to have a star studded cast with none other than Sylvester Stallone in the lead role.

Although Acclaim are primarily console publishers, their home formats deal with Virgin could mean an Amiga version appearing within a few months of the console game. Following their excellent conversions of titles such as *Alien 3*, Probe are hot favourites to develop the Dredd game.

There has been talk of a Judge Dredd movie for many years now, and with the character's ever-growing popularity both here and in America, he could well turn out to be the best British export since Anthony Hopkins. Opinion is mixed in the CU AMIGA office about whether Stallone is a good choice for the lead role or not. The tiny star certainly hasn't got Dredd's stature and it's even rumoured he has a clause in his contract that means he has to take his helmet off during the film! Gamewise, we just hope it's a better laugh than Virgin's last poor effort.

TWO NEW FOOTY GAMES FROM OCEAN



Remember our coverdisk demo of *F.A. Premier League*? Ocean hope you've forgotten all about it by now, as they've lost the license to the game and radically revamped the gameplay, so anyone who's hung onto their coverdisk has got a real collector's item! The remixed version of the game will now be called *Super League Manager* and will be out in October. Before that, expect to see another Ocean kickabout in the form of *Olympic de Marseille*. Based around the current European Cup champions, the new game will feature both top-down and side-view options and there will also be a specially enhanced version for A1200-owners.

Burning Rubber, a fast-paced racing game, has been scheduled in for an August release, while Ocean's license of US cartoon character, Dennis the Menace, looks likely to be one of the Manchester-based software house's big Christmas titles. For obvious legal reasons, the game will simply be called *Dennis* in the UK. For more information on any of these new games, ring Ocean on 061 832 6633.

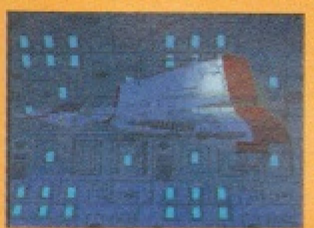
MERLIN BOARD APPEARS

German based Expert Systems have announced their entry into the budget 24-bit arena. Expert Systems are best known for their incredibly high-end Visiona display card, a challenger for the Harlequin which gained a substantial following in the States.

Their new board is to be called the Merlin and will essentially have the same features as the Retina board (reviewed in the April issue). These include a maximum screen resolution of 2048x2048 and double buffered display. The board is to be distributed in the UK by Micropace and, according to them, there will be a number of add-on modules available for it when it launches. As for a launch date, well its the same old story – any time now.

You can contact Micropace on 0753 551 888.

SPACED OUT



With *Elite 2* still 'on its way' Microprose looks like they're going to have the first major league space game of 1993 with *Starlord*.

As a Starlord you're pitted against several similarly titled members of the space gentry with the aim being for you get them all working for you through a combination of diplomacy and combat.

The bulk of the game is made up with interstellar dogfights with you piloting a state-of-the-art fighter. You also need to employ trading skills to make enough cash to buy better equipment in order to get the upper hand over your adversaries. Each Starlord has their own personality – while one might be easily bought off, another might have to be bested in combat before he'll come around to your way of thinking. *Starlord* is currently on the PC, with the Amiga version following later in the year. For further information contact Microprose on 0666 504326.

MUSIC-X 2

Only a mere 11 months after it was first announced, *Music-X 2* is finally ready to be released! Written by U.S. programming team Microillusions, the package is the long awaited follow up to one of the most popular Amiga MIDI packages of all time.

Among its numerous improvements, the package will sport a more friendly user interface and will include its own notation package (provisionally called *Notator*) which allows you to create scores on traditional staffs. These can then be played and editing using *Music-X* standard tools.

The package is also likely to support import and export of standard MIDI files allowing you to exchange files with programs such as *Bars and Pipes* and *Sequencer One Plus*.

The package will retail for about £149 and upgrades will be available to owners of earlier versions. It will be distributed by the Software Business who can be contacted on 0480 496497

COME ON YOU REDS (AGAIN)

Krisalis look set to cash-in on Manchester United's Premier League success by releasing their third Man Utd game in as many years. *Manchester United – Premier League Champions* has been in development since January this year and is set for an autumn release. Having exhausted the side-on view used in the first two games, Krisalis have opted for a top-down perspective for the new kickabout, a là *Sensible Soccer* and *Kick Off*. We're promised lots of innovative new features, although Krisalis didn't seem to know what these were at the time of going to press.



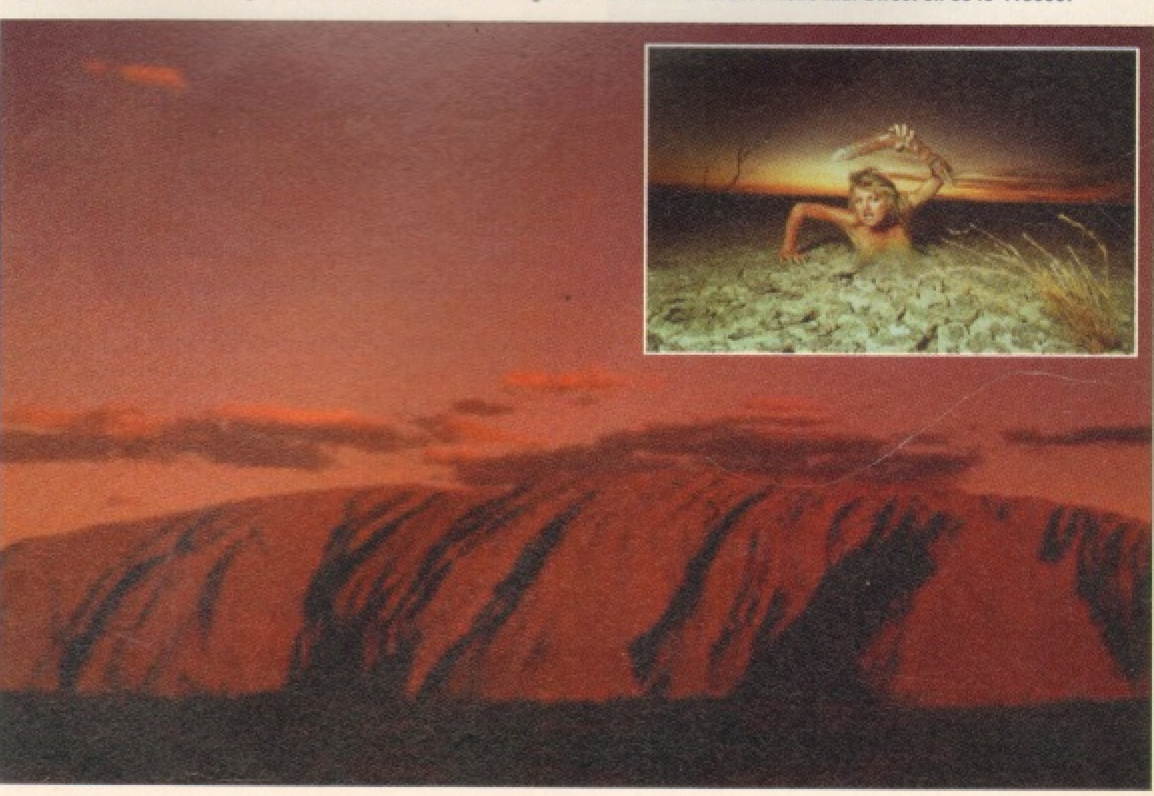
Personally, I'd like to present Krisalis with one of CU AMIGA's special 'Lucky Buggers' awards. Not only have they timed their latest release to coincide with the team's success in the Premier League, but their previous two soccer games, *Man Utd* and *Man Utd Europe*, both came out when the side had won the F.A. Cup and European Cup Winners' Cup respectively.

The Amiga version will cost £29.99. For more information, 'phone Krisalis on 0709 372290.

OPALVISION A REAL GEM

A1200 owners will soon be able to share the Opalvision experience according to Indi Direct. Apparently an expansion box has been developed which will allow the Opalvision board to be used externally. Whether this box will also be compatible with the A500 and A600 remains to be seen...

In other news, the amazing Opalvision 2 graphics system is being discounted already! Indi Direct (they of the Jakki Brambles adverts) are offering the Opalvision 2 main board for £549.99 – a saving of £50. The same package with *Imagine II* ray tracing software is being offered for £599.99 – an even greater discount of £100! Phone Indi Direct on 0543 419999.



» # COMMODORE WRITES

In the first of a new series, Commodore's new UK boss, David Pleasance, takes a look at Commodore's continuing development.

WELCOME



Many of you Commodore watchers may have been a little surprised by the top-level reshuffle in the company lately. It's hardly unusual though. Staff come and go in any organisation.

However, the appointment of myself and Colin Proudfoot as joint General Managers means that the transition from the last regime to the present one was a painless, organic affair.

Colin was already Finance Director and he'll continue to run the fiscal side of things. I have been with Commodore for over a decade, at first here in the UK and more lately as Director of International Sales based in Switzerland and the US. From now on, I'll be directing Commodore UK's overall sales and marketing activities. Because of my spell in the US I can claim to be very much in tune with the company's Westchester nerve centre.I know their views. They know mine. This should make it easier to drive Commodore forward on the same footing on both sides of the Atlantic. What I'm trying to say with this biographical detail is that although I'm the new 'boss' I've actually been around for years!

GROWING

During my tenure I've witnessed the Amiga become central to Commodore's continued prosperity. But that's just looking at it from our point of view. This unique machine also has an irresistible pull for users – millions of them – and we at Commodore should be mindful of the wishes of the Amiga user base in every strategy we embark upon.

That's the prime reason for setting up this column. It's important for users to have access to new developments. And here's a chance to keep you in touch.



But it mustn't just be a soapbox for Commodore. We want the column to be a dialogue – so continue to write in to CU Amiga with your questions. We'll try to answer them whenever possible.

I'm lucky enough to have taken the helm at Commodore UK at a time when the Amiga range is really taking shape – with something to suit everyone's needs and finances. At the bottom end the Amiga 600 is unbelievably affordable for those looking for an introduction to technology, the Amiga 1200 is a big step up yet still stunningly inexpensive while the Amiga 4000 range promises a configuration for everyone requiring high powered 32-bit computing.

In fact, I've been amazed by the sales achieved by Amiga 4000s in the last few weeks. We sold out of machines at the beginning of May!

The Amiga 1200 just surges onward. After surprising ourselves with sales of 44,000 before last Christmas we set a target of selling 200,000 this year. It was bullish at the time but already we're well on schedule.

UPGRADING

It just proves the strong desire of Amiga users to upgrade. This is something we are fully aware of and want to encourage wherever it is possible and practical for us to do so. Hence our latest trade-in offer. From now until June 30 you'll be able to purchase an Amiga A1200 for £299.99 when traded in with a working Amiga 500 or Amiga 500 Plus (only through independent retailers). That's a saving of £100!!

This is a logical step for the Amiga community. We're not ashamed to admit that we want 32-bit AGA technology to be the standard for home computing.

This process is already well under way with software publishers currently programming new exciting titles as well as converting the most popular of the existing 500 and 600 titles. The trade-in will cement the machine's position as our mass market flagship.

The Amiga 500 is over six years old. It's had a glorious run as the premier home computer. Now, the Amiga 1200 has taken on its mantle. Hundreds of thousands of Amiga 500 users will be eager to upgrade. Here's their chance.

One further indication that the Amiga 1200 is becoming a mass market machine is that later this year there'll be an Amiga 1200 bundle, although we haven't decided what the software will be yet. If past experience is any guide, the existence of a bundle will build sales by a substantial margin.

In the next column we should be able to tell you how the trade-in offer is going – and answer your questions, providing you've got some. So dig out your *Wordworth* floppy and get writing!

CU AMIGA would like to stress that the views expressed herein are not necessarily their own.

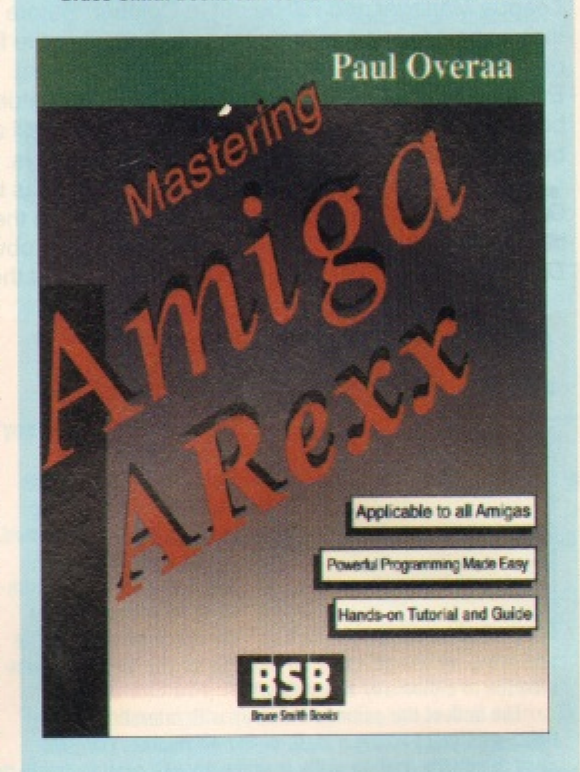
MASTERING AMIGA AREXX

Continuing with their relentless publishing agenda, Bruce Smith Books have just released Mastering Amiga ARexx for £21.95. Written by Amiga guru and all-round brainbox Paul Overaa, the book provides both reference and tutorial material to help you get to grips with the language.

It details the varied uses of the language and describes its lineage before going into detail about its practical applications, including inter-program communication.

The 336 page book is supplied with a free disk of complimentary software packed with example ARexx scripts to accompany the tutorials.

Bruce Smith Books can be contacted on 0923 894355.



POWER'S DELECTABLE DUO

Amiga developers Power Computing have announced two major new pieces of hardware this month.

The first is a GVP-beating hard drive called the Trifecta. The Trifecta is the only full SCSI 2 hard drive available for the A500 range of Amigas, and it's also available on a plug-in Zorro card for the big box machines (A1500 upwards).

The unit is available with drives between 52Mb and 1Gb (1000Mb!). Power claim that its SCSI controller is capable of asynchronous transfer rates of up to an incredible 5Mb per second. Compare this with the GVP HD8's rate of about 800k per second and you begin to see why the Trifecta is something special! The drive will also feature a 16-bit IDE interface which allows you to connect both SCSI and low-cost IDE drives simultaneously.

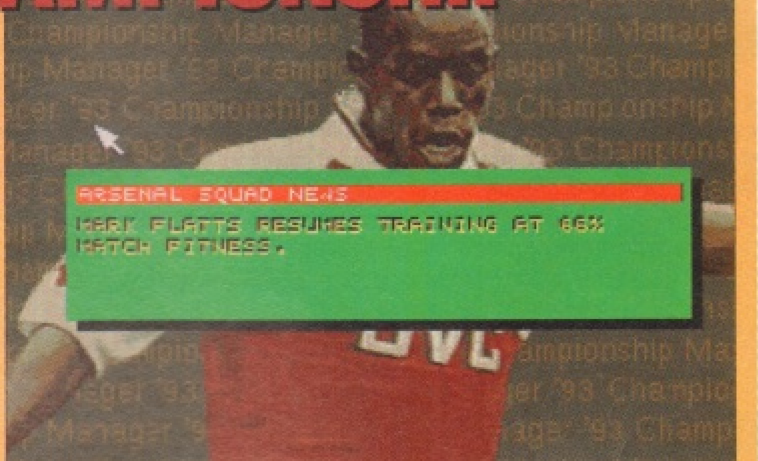
As with the HD8, the Trifecta's case is aesthetically pleasing and the drive is also capable of supporting up to 8Mbs of expansion RAM.

Slightly less imminent, but nonetheless promising for A600, 1200 and 4000 owners is the new IDE Syquest Optical drive. Very few details are available, but optical drives traditionally have a greater capacity than floppy disks and can be used as a kind of replaceable hard drive. The external IDE version can be plugged into these machines IDE' interfaces, which is fine for the A4000 but will require extra cooling for the A1200. Power can be reached on 0234 843388.

CHEAPO CHAMPIONSHIP

For all those who own the original version of Domark's *Championship Manager* you can now upgrade to *Manager '93* for just £7.99.

The upgrade gives you all the features of the stand-alone version of '93 but at only a fraction of the price. These include all the 92-93 teams and players as well as every European cup competition. Our review last issue gave the new management sim a rather good 84% calling it 'an extremely absorbing football strategy game' so what are you waiting for?! All you need to do is send a cheque for £8.99, (that includes P+P) to Intelek, PO Box 1738, Bournemouth, BH4 8YN. Allow 28 days for the delivery of the new updated disk. Those who don't possess the original disk will have to buy the full-price version of the game.



FISHY CLIP ART

Clip art specialists, Artworks, have just released two new collections of... wait for it... clip art! The two latest collections of clips from their rural studio brings the total set up 10. The first of the newcomers is called *Fishing* and *Freshwater Life* and it contains a variety of freshwater fish, insects and plant life. There's also a selection of fishermen ranging from children with nets to fly fishermen.

The second collection is called Signs and Symbols 3 and it's the latest volume of miscellaneous clip art covering subjects as diverse as maps, visa cards, speech bubbles and cooking utensils.

The collections retail at £6.99 each or £6 if you buy three or more. Find out more by phoning Artworks on 0469 588138.

LASER SQUAD MEETS UFO



Microprose's second foray into the land of sci-fi combat appears in the form of a semi-sequel to the hugely successful *Laser Squad*. The new game, provisionally titled UFO (though that is likely to change due to legal reasons), will see the player heading up an Earth defence force, whose aim is to protect the planet from hordes of alien nasties. It looks like the game will incorporate all of Microprose's usual strategy elements with the possibility of a few arcade sequences thrown in for good measure.

As part of the Earth defence force you'll have to decide where to place your protective bases and then use them to monitor incoming craft. Once they've been spotted you despatch Interceptor craft to shoot them down. If, however, the UFOs manage to sneak by you'll need to send out a *Laser Squad*-type team to take the aliens out on the ground.

The PC version will sport a cartoon opening sequence in the style of the Japanese Manga comics, but it is undecided as yet whether the Amiga version will include this. Look out for more details in upcoming issues. Alternatively, contact Microprose on 0666 504326.



PROPER ENGLISH



Gordon Harwoods have just announced that they will be distributing the latest Softwood package aimed at frustrated (or should that be frustrating) writers. *Proper Grammar* is more than just a jumped up spell checker – it actually analyses your text for grammatical errors too.

In addition to spotting the old double negatives, split infinitives and misplaced pronouns, *Proper Grammar* will apparently also draw your attention to clichés, jargon, archaic phrases and 'pretentious words' – so there's no fear of anyone at CU Towers daring to use it.

Proper Grammar is compatible with Workbench 1.3 and up, but does require 1Mb RAM and a hard drive. It is fully multi-tasking and supports ARexx to allow it to be used quickly and efficiently with any word-processor you may currently be using. Expect a review soon, but in the meantime you could give Gordon Harwoods a call on 0773 836781.

RUMOUR CORNER

There are several interesting Commodore related rumours floating around at the moment. Most of these centre around a notorious piece of electronic mail which has probably been posted on every BBS in every hemisphere by now.

The message apparently deals with the specifications of two new machines. This information would be slightly more believable if it wasn't for the fact that at CU Towers we now have three different versions of it. The first contained so many impossibilities and improbabilities that the whole message was suspect. On the very latest version many of the absurdities have been removed, but the validity of the whole document is tainted.

What is certainly true is that the A5000 (or whatever it may be called) is certainly on the drawing board and does include an updated chipset. It will almost certainly come with a DSP (which may indeed be the AT&T model) and have an extended Chip RAM facility. What is also certain is that since the de-staffing of the R&D department at West Chester, it is unlikely that such a machine will see the light of day for some time.

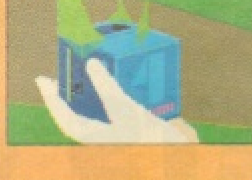
The other rumoured machine is the much speculated portable. Nice idea that it may be, it would be very foolish of Commodore to launch a product without identifying a market for it first, and there is nothing to suggest that such a machine would be of any more use in the marketplace than any of the current PC variants. The only certainty is that it would be a lot more expensive, and the spend required to market it successfully would be prohibited, especially at this exposed juncture of CBM history. Of course one can never rule out the possibility that Commodore will not do something just because it is a bit foolhardy...

»

AMIGA CHARTS TOP TEN

US Gold's *Flashback* has entered the charts straight at number one, knocking *Desert Strike* from the top spot. A couple of surprise entries, however, at numbers three and four are Domark's updated soccer management sim and Audiogenic's cricket sim. It just goes to show that sports games still have their place.

1. Flashback (US Gold)
2. Desert Strike Electronic Arts)
3. Championship Manager '93 (Domark)
4. Graham Gooch (Audiogenic)
5. A Train (Ocean)
6. Superfrog (Team 17)
7. Chaos Engine (Renegade)
8. Arabian Nights (Krisalis)
9. War in the Gulf (Empire)
10. A320 Airbus USA (Thalion)





Charts supplied by HMV.

PRINT WITH CARE

If you own a printer, chances are you've heard of Care Electronics, publishers of a range of printing software including *Flexidump* and *The Colour Kit*.

The good news is all of their programs are being upgraded and will feature new anti-aliasing options which will improve the output quality significantly, especially on enlarged print outs.

There will also be a range of new dither modes for more convincing colour and grey scale shading. Contact Care Electronics on 0923 894064.

TURBO GOES ONE BETTER

Sample fans will doubtless be happy to learn that Technosound Turbo from New Dimensions in Wales is about to see release version 2. The updated version will feature completely new software containing even more special effects than the current version.

The sample display area has been greatly enlarged by moving many options into pull-down menus. Samples can now be recorded directly to, and played back from hard disk in realtime. There are now 18 novelty effects with such names as Pinky and Punky and Dark Vader!

There are also a selection of realtime effects each of which can be controlled using slider bars whose positions can be saved as presets.

Technosound Turbo 2 will retail for £49.99 and should be available by the time you read this. A software-only upgrade will be available for £15 plus £1 post and packaging. Owners of other samplers can also buy a software only version which will cost £29.99.

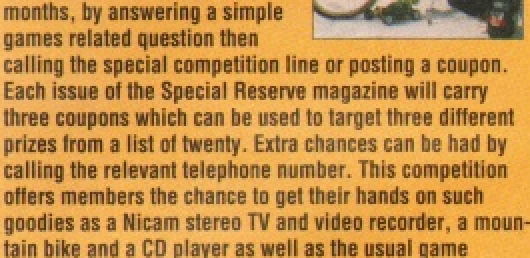
Considering the phenomenal success of Technosound Turbo throughout the entire world, distributor orders are already rolling in and New Dimensions confidently expect this enhanced version to break all former sales records.

Order your sampler or upgrade by phoning 0291 690901.

WANTED!
PRODUCTION EDITOR

Are you hard working, well-organised and can spot a literal at one hundred paces? Have you experience of working on a national magazine or possess a diploma in production studies or a similar qualification? Do you relish a challenge? If the answer to all three questions is yes, and you like a beer, you could be just the person we're looking for. Our current production editor, Heather, is leaving shortly to have a baby, so we need to find a replacement as soon as possible. You'll need experience of *QuarkXpress* software on the Macintosh, as well as familiarity with the Amiga range of computers and related software programs. Another prerequisite is an out-going personality and a confident telephone manner as you'll be expected to chase copy from contributors, liaise with our printers, organise a production schedule and be responsible for the smooth running of the magazine. If you think you're up to the challenge, give Dan a call on 071 972 6700 Ext. 2421, or write to CU Amiga c/o Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. We'll need to hear from you by the 10th July at the very latest! No time wasters please!

SPECIAL RESERVE GIVEAWAY



In a new promotional drive Special Reserve, the mail order game company, are set to give away £60,000 worth of prizes over the coming year.

All Special Reserve members will be able to enter the competition, run every two months, by answering a simple games related question then calling the special competition line or posting a coupon. Each issue of the Special Reserve magazine will carry three coupons which can be used to target three different prizes from a list of twenty. Extra chances can be had by calling the relevant telephone number. This competition offers members the chance to get their hands on such goodies as a Nicam stereo TV and video recorder, a mountain bike and a CD player as well as the usual game consoles and computers.

For more information see Special Reserve's ad elsewhere in this magazine. Alternatively, give them a call on 0279 600204.

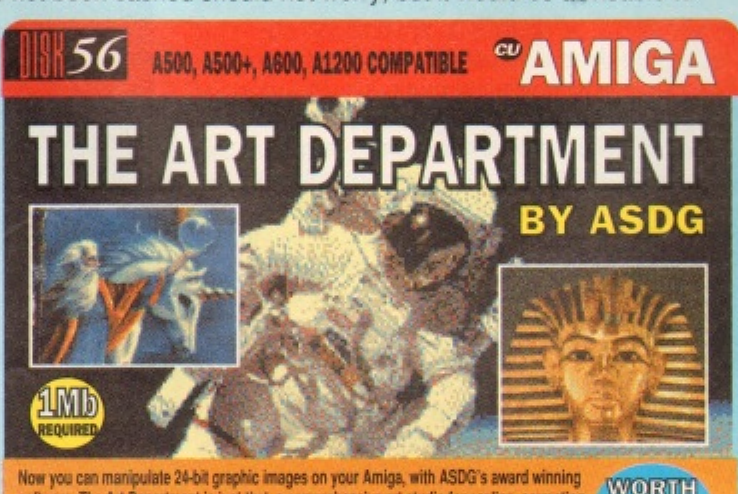
ASDG OFFER NEWS

Worried readers who took advantage of the manual and upgrade deals for the Art Department program given away on CU AMIGA'S MAY coverdisk can rest slightly easier. Due to circumstances beyond our control the company that was fulfilling the order, DMI, filed for bankruptcy whilst the deal was active, and many orders may not have been filled.

CU AMIGA and ASDG were obviously concerned about readers missing out or even losing money in the resulting confusion, so we have sorted out a new dealer to fill the outstanding orders. Meridian Distribution have stepped in to help out unlucky readers, and will now be sorting out all the orders. Fortunately, few cheques were actually cashed by DMI, and most people affected will already have been notified. If your cheque was cashed you should obtain a photocopy of it from your bank and contact Meridian with the details of your order.

Applicants whose cheques have not been cashed should not worry, but it would be advisable to contact your bank and cancel your cheque. Meridian have details of almost all the applicants and may contact you by post or you can give them a ring on 081 543 3500 and give them details.

We are sorry for this inconvenience but we wish to ensure all our readers that nobody will lose out or have to wait a long time for the receivers to honour the debts of DMI. ASDG will be making up any loss from their own stock. We apologise if you may have to wait longer than you anticipated for your order, but hope you will bear with us, ASDG and Meridian until this problem can be sorted out.



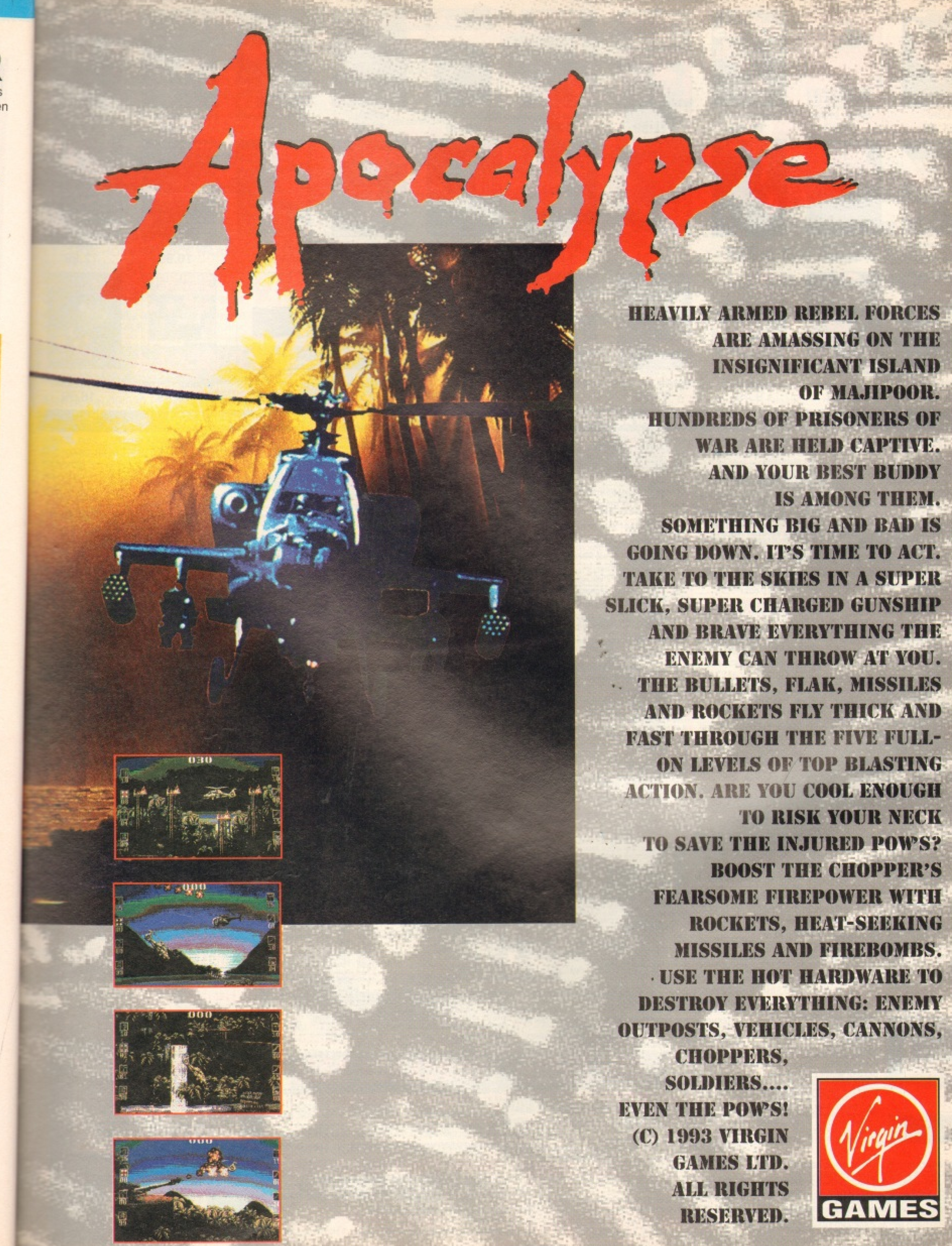
GVP PRICE SLASH!

GVP have announced sweeping price reductions in their range of Amiga peripherals, with immediate effect.

Among the products concerned are the G-Lock, reduced from £349 to £299 and the basic IV-24 card which comes in for a much needed 33% walloping down to an almost affordable £999. The extended IV-24 with additional outputs drops £400 to £1299.

Probably of most interest to A500 owners is the price drop in the A530, which comes down from £699 to an amazingly low £499 for the 42Mb version. This is really amazing value when you consider the unit consists of a 40MHz '030 accelerator as well as a high speed SCSI hard drive with RAM expansion capabilities. A 120Mb HD8+ comes in at a staggeringly low £399.





Apocalypse
HEAVILY ARMED REBEL FORCES ARE AMASSING ON THE INSIGNIFICANT ISLAND OF MAJIPOOR. HUNDREDS OF PRISONERS OF WAR ARE HELD CAPTIVE. AND YOUR BEST BUDDY IS AMONG THEM. SOMETHING BIG AND BAD IS GOING DOWN. IT'S TIME TO ACT. TAKE TO THE SKIES IN A SUPER SLICK, SUPER CHARGED GUNSHIP AND BRAVE EVERYTHING THE ENEMY CAN THROW AT YOU. THE BULLETS, FLAK, MISSILES AND ROCKETS FLY THICK AND FAST THROUGH THE FIVE FULL-ON LEVELS OF TOP BLASTING ACTION. ARE YOU COOL ENOUGH TO RISK YOUR NECK TO SAVE THE INJURED POW'S? BOOST THE CHOPPER'S FEARSOME FIREPOWER WITH ROCKETS, HEAT-SEEKING MISSILES AND FIREBOMBS. USE THE HOT HARDWARE TO DESTROY EVERYTHING: ENEMY OUTPOSTS, VEHICLES, CANNONS, CHOPPERS, SOLDIERS.... EVEN THE POW'S!
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Virgin
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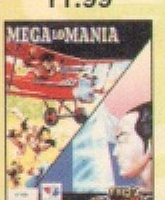
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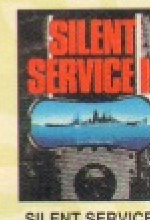
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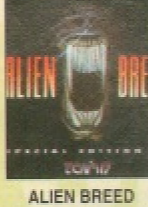
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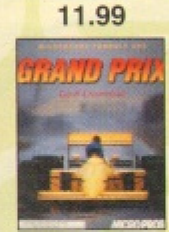
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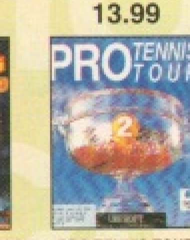
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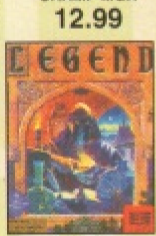
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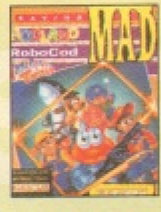
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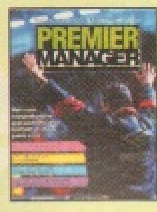
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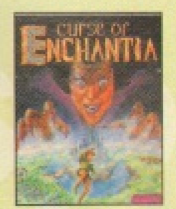
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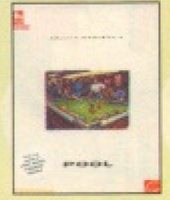
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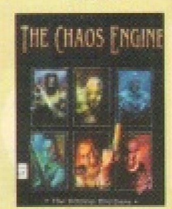
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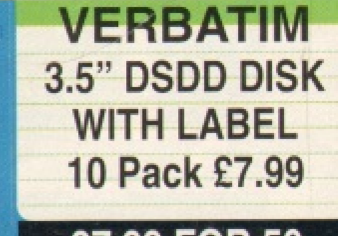
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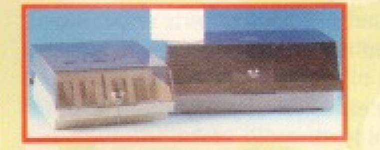
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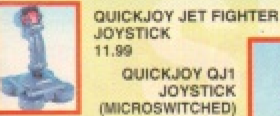


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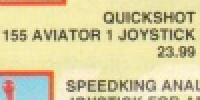


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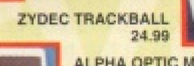
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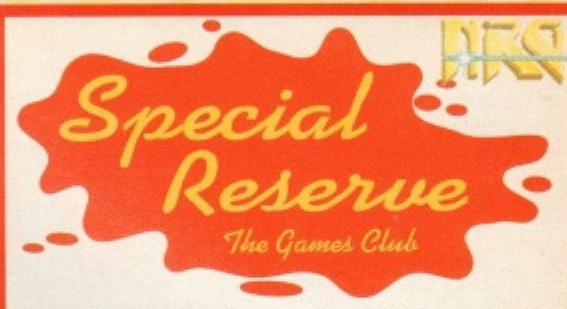
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COVERDISK 60



WMS

On this month's coverdisk, we give you WMS, the ultimate Workbench organiser, plus Virus Checker 6.26 to help rid your system of any nasty gremlins. But that's not all, as we've also included Bootlogo to stop those hard drive blues and Kepmap Ed, the ultimate editor for menu makers everywhere.

Take control of your Workbench with the Workbench Management System, a flexible utility to help you gain mastery over Amiga DOS. Packed with features, this just has to be the ultimate Workbench organiser!

So, what's the *Workbench Management System* all about, and why is it so useful? That's what we aim to tell you over the next three pages, so strap yourself in for a rollercoaster ride around its essential features. Now that you know how to load *WMS* (go back to the Quickstart Guide if you've just jumped straight in!), let's explain exactly what it is and does. *WMS* provides you with a selection of powerful tools to make your life easier and help you to keep control of your data. Although it will run happily on any Amiga, to get the best out of it you should have at least one megabyte of memory. A hard drive would be simply divine, but isn't necessary!

WMS consists of lots of separate programs, each of which may be accessed by clicking the appropriate button so let's see what's what:

MEMOED

MemoEd is a simple text editor. It's so simple to use that it virtually requires no instructions but, just in case, here's a command summary for absolute beginners:

PROJECT MENU

- Open – Load a previously saved document.
- Save – Stores the active document to disk using its current name. If the document has not yet been named, a file requester will open where you can give it one and specify where it should be saved.
- Save As – Opens the file requestor so that you can give the current document a name and specify where it's to be saved. When you click OK the document will be saved.
- Merge – Lets you insert another document, loaded from disk, into the current document at the cursor position.
- Quit – Exit the program by selecting Quit or clicking the close gadget (a dot inside a square) at the top of the screen. When you quit, any text that you've typed will remain in memory until you quit *WMS* altogether. To continue editing text once you've Quit MemoEd, simply click the MemoEd button again.

TOOLS MENU

- Undo – Undoes the effects of the last Clear or Delete command.
- Goto – Moves the cursor to the beginning or end of a document according to the option you select.
- Print – Prints the current document using your current printer preferences.
- Wrap – The wrap command will reformat the entire document so that no line exceeds the length specified in the margin gadget at the top right of the screen. The default margin is 70 characters.
- Clear – Any text on the screen is erased.

EDIT MENU

- Search – Searches the current document for the text specified in the 'Search For' gadget.
- Replace – Replaces the Searched-For text with the text in the 'Replace With' gadget. You can choose to replace just a single occurrence of the text (Word) or every occurrence within the entire document (global).

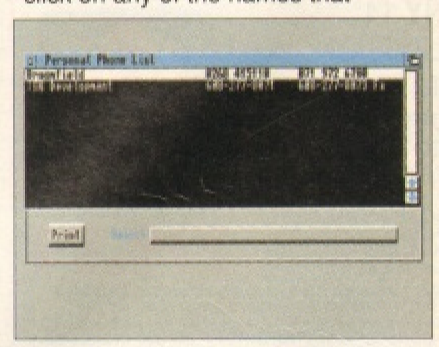
CUT/PASTE MENU

- Begin LBlock – Marks the beginning of the text you want to cut or copy.
- Copy LBlock – Copies the text from the start marker to the end of the current line. The copied text is stored in memory for later use.
- Cut LBlock – Works the same as Copy LBlock except the copied text is erased from the document.
- Insert LBlock – Inserts any cut or copied text at the start of the current line.
- Delete Line – Deletes the current line of text.
- Paste Line – Pastes the last line of text erased with the Delete Line command at the start of the current line.

TELEMATE

Telemate is the WMS telephone book containing two directories – one containing business names and addresses, and the other containing personal information.

When you've selected either Business or Personal, a list of all names will appear. Initially this is just one name, but as you add names to your database, they will also appear on the screen. To add a name to the database, or alter an existing one, click on any of the names that appear in the list. This will call up an editing screen where you can make any changes. To add a new name and address, click the New button. Whenever you add new names and addresses, you should finish the session's activities by clicking the Sort

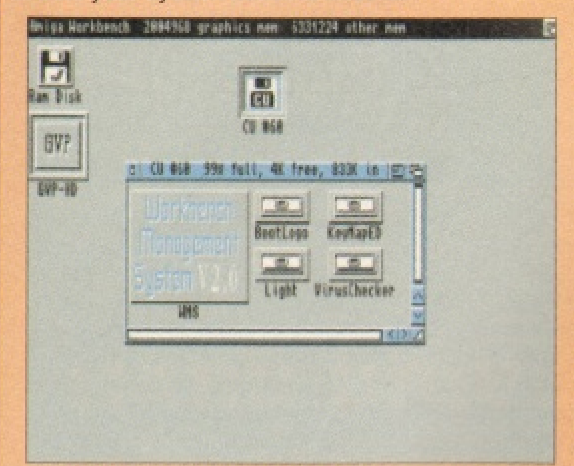


For quick searching, it's easier to view your address books in a list format like this.

You can view entries in Telemate's two address books in this expanded format when you need more information or you want to edit a record.

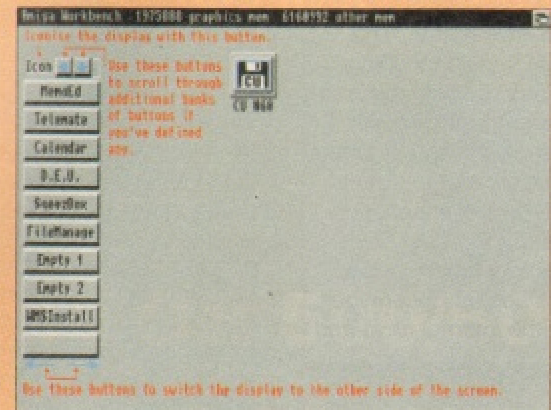
YOUR QUICKSTART GUIDE TO LOADING DISK 60

Switch off your computer and leave it turned off for at least 20 seconds before turning it on again. This helps to prevent the spread of viruses should your system become infected.



Now insert Coverdisk 60 and when the icon labelled 'CU #60' appears, double-click on it to see the disk's contents. You'll see a large icon labelled 'WMS' plus four drawers (each containing a separate program). Double-click on the WMS icon and the main program will load. Once loaded, you'll see a bank of buttons running down the left-hand edge of the screen – these represent the WMS command console. You can click these buttons to your heart's content without fear of hurting the program – in fact it'll help you to get a feel for things.

When you're ready to leave the program, simply



press the right mouse button and select 'Quit' from the menu that appears at the top of the screen. To enter the other programs on the disk, simply click on their drawers and then on the appropriate icon. We'll explain more about these other programs on page 18.

DISK VIRUSES

CU AMIGA makes every effort to ensure that viruses do not get on to our disks, and we aim to include a virus checker on the disk whenever possible. Unfortunately, because of the nature of viruses, the virus killers can only be updated to include a new strain when it has already become known – i.e. ruined a few disks and made a nuisance of itself.

Fortunately we always have the most advanced virus checkers available when the disk is compiled and every program goes through a rigorous regime of testing before it appears on our coverdisks, which are then tested block by block.

However, we can accept no responsibility whatsoever for possible damage incurred by viruses which may have escaped our attention. Readers are advised to take sensible precautions.

IF YOUR DISK WON'T LOAD

If your coverdisk doesn't seem to work as it should, then follow this simple guideline. Firstly, remove all unnecessary peripherals, such as printers, modems etc. Follow the instructions on these pages to the letter, and if after that you find that the disk still doesn't work, then pop it in an envelope with a covering letter explaining what the problem is to: CU DISK RETURNS, PC WISE, DOWLAIS TOP BUSINESS PARK, MERTHYR TYDFIL, MID-GLAMORGAN, CF46 2YY. Please include 28 pence per disk to cover postage and packing (55 pence for overseas readers). Your disk will be tested and a new, working one dispatched to you as soon as possible.

Please note that neither we nor PC Wise accept responsibility for any disks damaged due to negligence on the part of the user.

button which will arrange the records in alphabetical order. Remember, whenever you add new data to finish off by clicking the Save button which automatically saves your new data to the miscellaneous drawer of the current disk. The Dial option assumes that you have a modem connected to your computer. When you click it, the home phone number will be dialled if you are in the Personal directory, and the Phone number will be dialled if you are in the Business directory.

As usual, click the close gadget to return to the WMS command console.

Now you'll never have an excuse to forget Grandma's birthday again thanks to WMS's reminder feature which lists all important dates during the current month.

Keep track of all those tiresome garden parties and polo matches with the Appointments option. Close the calendar by clicking the close gadget.

CALENDAR REMINDER

The Calendar provides a handy way of reminding yourself about important dates, as well as letting you keep track of your day to day appointments. It determines the current date from the system clock. If you don't use a battery-backed clock, you'll need to use the Date command to ensure that the date is accurate before you begin.

If you click the Reminder button, a list of all important dates during the month will be listed in chronological order. To add reminders of your own, click the REMEditor button and the Reminder File Editor will appear. Change the date by clicking on the digits of the date with the mouse buttons – left to advance the number or month and right to decrease it. When you've reached the correct date, simply click in the Reminder text gadget and type whatever you need to be reminded about, then press return and click the Add button. To change an existing file select the file from the displayed list, then click the Edit button. When you've set up the dates about which you wish to be reminded, you simply need to click the Save button to store the file to disk.

If you click directly on one of the calendar's dates, a 12-hour appointment card will appear for that day. By clicking on any of the times, you can add or delete information about your schedule.

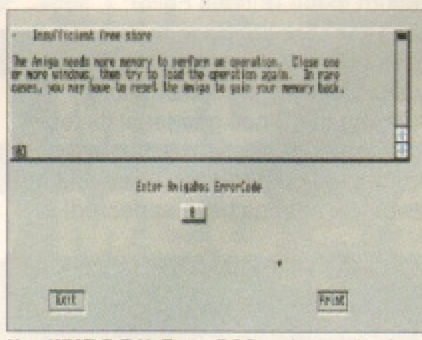
When you've set up the appointment card to your satisfaction, click Save It to store your appointments on disk.

D.E.U.

D.E.U. stands for Decisive Environment Unit and it's designed for new users. It provides information about the Amiga's error codes and messages, the commands available in DOS and the characters in an ASCII table.

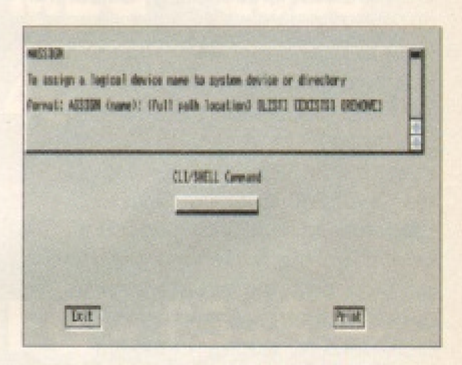
Simply click the Error_Dos button to see a list of all error messages. Scroll through the list using the scroll bar at the right of the list, or type in a specific error number to go straight to its definition.

You can find out how to use all Amiga DOS commands by clicking the Shell/CLI button. Again a list is provided which you can view using the scroll bar, or by typing in the name of a particular command. The relevant parameters and options of the command are also displayed, which saves a lot of head-scratching and thumbing through the manual.



Use *WMS'* D.E.U. Error_DOS option to check why your computer keeps crashing all the time. Even tech guru Tony uses this.

The final section shows you what character is produced by which ASCII number. The scroll bars will take you through the list or typing in a number will jump straight to its ASCII character.



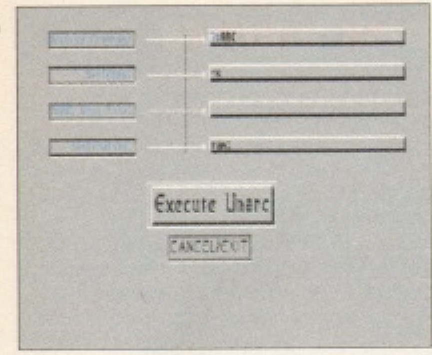
Now you need never wonder about the syntax of a DOS command ever again. They're all listed complete with syntax and a brief description.

SQUEEZ BOX

SqueezBox is the WMS archiving and un-archiving utility. It provides support for two archivers, and four un-archivers. Before you can use it, please ensure that you know the location of any archiving programs you're going to use.

Having selected which archiver or unarchiver you wish to use (LHarc is probably best), click on the appropriate button and you'll be taken to the options screen. In the section labelled 'Archive Program' you can specify the archiver that you'll be using, and where it can be found. In the 'Switches' gadget, you can specify the archiving switches to be used. Information about these switches is provided with most archivers and can be found out by typing DF0:C/archiver ? <return> replace DF0:C/archiver with the exact name and path name of your archiving program.

In the gadget labelled 'Un/ARC what file:' you should type in the actual name of the file to be archived or UnArchived. Remember to add its full path name. The final gadget



Not only can you alter the choice of archivers used for different operations, you can also select which switches are set when they are in operation.

labelled 'Destination' is where you should specify the destination of the archived or UnArchived file/s.

All of the above options are set to logical default values, and you probably won't want to change them.

When you're satisfied with your settings, click the 'Execute Un/Arc' button to proceed. If you change your mind, click Cancel/Exit to return to the SqueezBox options screen, then Quit to return to the command console.

FILE MANAGE

File Manage is *WMS*' own file browser and handler utility. Select the directory containing the file/s you want to look at by clicking the devices button at the bottom of the screen. This lets you choose the drive containing your file. A second click of the same button will display all assignments and other logical devices. From the list displayed, choose a device and the contents of that device will be shown. Individual files will appear in the right-hand window, directories will appear in the left.

When you see a file that you want to examine, double-click on its name.

File Manage will display non-AGA IFF screens, play IFF samples, display ASCII text files and even play Anim.brushes. What's more, you can even use it to run executable programs!

THE BUTTON EDITOR

The Button Editor is one of *WMS*' most powerful features for it allows you to add extra button features to the program so that it's completely suited to your working requirements. You can access the program by pressing the right mouse button and selecting Button Editor from the menu.

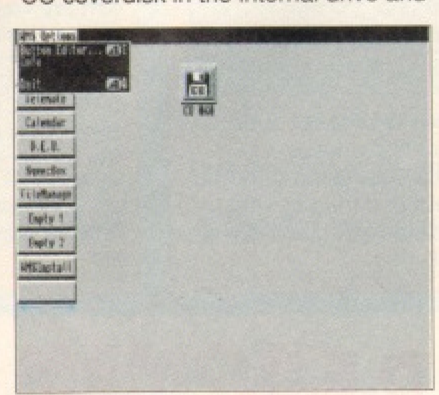
At the left of the editor you'll see a list of the existing button names and the word WMSInstall should be highlighted and should also appear in the List Name gadget.

Let's add a new button so that you can see how easy it is. Click the 'Int' gadget repeatedly until the word Anytime! appears. The Int gadget lets you select one of *WMS*' eight internal options, and we haven't had a look at the AnyTime program yet.

When the command appears in the List Name gadget, click the 'Add' button to add the new button to the list. You'll notice it appears below the WMSInstall button. Use the Move (up arrow) gadget to move our new entry up through the list until it's above the Empty1 button. Click Save and the new button will be saved ready for use!

Now click the New button. The List Name gadget should be cleared ready for your entry. Click in this gadget and type the words V.Checker. As you press return, the cursor jumps down to the Directory gadget ready for you to specify where the chosen program is to be found.

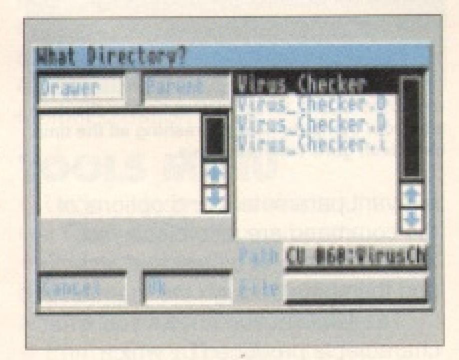
Click the directory button and a file requestor will appear. Insert your CU coverdisk in the internal drive and



Here is *WMS*' answer to *SID*. *File Manage* is a file browser that lets you read text files, view Anim.brushes and IFF screens and listen to sound samples.

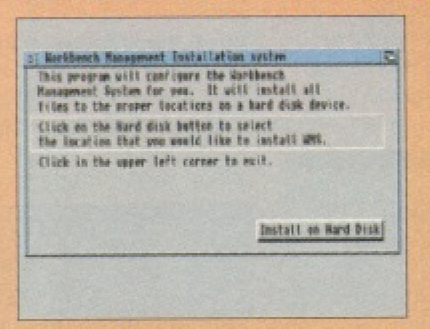
click the top left button of the 'What Directory?' file requestor. It will toggle between Assigns, Drawer, Physical and Disks. When you get to Disks and you see the text 'CU #60' appear, click on it. The list will change to show the contents of the coverdisk. Use the scroll bar to move to the end of the list of directories where you'll see 'VirusChecker'. Click this text and a new list of files will be displayed. There are no more directories available so this window will remain blank. In the files window, select Virus Checker then click the 'OK' button to return to the Buttons Editor.

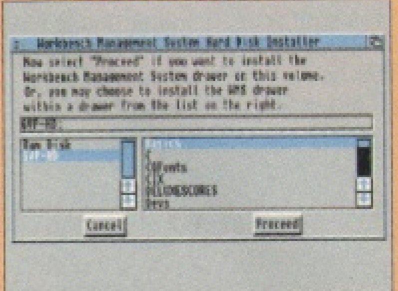
Now click the Save button and the new button will be saved for future use. Close the Buttons Editor by clicking the Close gadget at its top left corner. When you return to the command console, you'll see that our two new buttons have appeared!



Small but perfectly formed, *WMS*' file requestor is a little unusual in the way it works, but as you get used to it, you'll grow to like the way it seperates files and directories into diffferent windows...probably

INSTALLING WMS ON A HARD DRIVE





Installing the program on a hard drive is simplicity itself. Begin by following the loading instructions given in the WMS QUICKSTART GUIDE. Once the program has loaded, you'll notice that the bottom button on the command console is labelled WMSInstall. Click this button to access the installation program. On the next screen that appears, click the 'Install on Hard Disk' button to call up the directory window. In this window, select your hard drive's device name from the list on the left. As you do so, its contents will be displayed in the window on the right. Choose where you want the program to be installed. Remember, the installer will automatically create a WMS directory for you. When you're happy with your choice, click 'Proceed' and the program will be installed for you. There's no need to make any assignments. The program is ready to use immediately.

If you change your mind about installing the program on a hard drive, simply click the close gadget at any stage to cancel the operation.

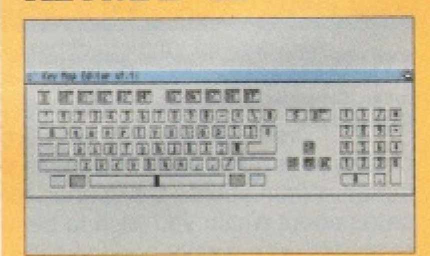
WHAT ELSE IS ON THE DISK?

There are four other programs on this month's coverdisk. Each of them includes complete documentation, so we won't be going into any detail here. Here's a brief overview of the other programs:

BOOTLOGO

Hard drive owners, do you sometimes find that when you load a program, the screen blanks, the drive goes quiet and you're not absolutely certain that anything is happening at all? This is a program that can be added to the Startup_sequence of such programs to display a high resolution screen as long as the program's actually doing anything. As soon as anything attempts to open a new screen, Bootlogo detaches itself and dies painlessly! Be sure to read the instructions on disk.

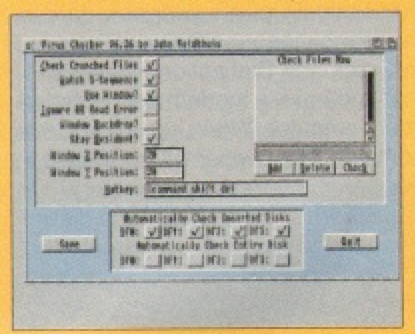
KEYMAP ED



If you enjoy compiling your own disks, you'll know the value of a good keymap editor for creating your own menus and the like. Unlike the notoriously unstable Setkey program, Keymap Ed is a simple to use and reliable program that must count as an essential part of any serious user's collection.

VIRUS CHECKER

Demonstrating CU's continued dedication to the safety of your valuable software, we're proud to

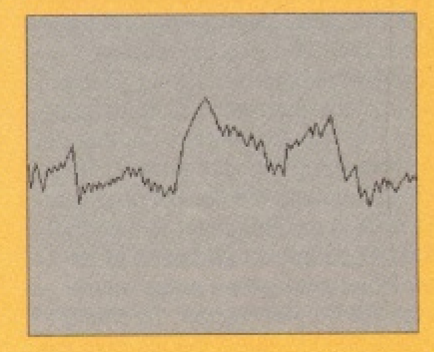


present version 6.26 of John Veldthuis' world renowned Virus Checker program.

Capable of detecting yet more viruses, the program is small enough to add to your Workbench startup_sequence, thus ensuring you keep your Amiga virus free.

LIGHT

Written to accompany John Kennedy's DIY tutorial, this program acts as a simple oscilloscope converting a serial input into a visible display. Read the tutorial for further information, starting on page 160.





COMING SOON
1869
RELEASE JUNE 10
WHALE'S VOYAGE
RELEASE JUNE 17
SURF NINJAS
RELEASE AUGUST 12
WHALE'S VOYAGE
1869
ASM HIT
AMIGA GOLD FORMAT
PC JOKER
EXPLORE THE ALIEN PLANETS OF THE 24TH CENTURY, WITH THEIR SINISTER WORLDS AND CITIES INHABITED BY STRANGE SOMETIMES VIOLENT PEOPLE. LEARN TO TELL FRIEND FROM FOE, AS YOU TRY TO OUTWIT TRADERS WITH YOUR MERCHANDISE, THE COMPETITION CAN BE INTENSE, BUT THE REWARDS GREAT, AS YOU STRIVE TO FINANCIALLY SECURE YOUR RACE.
THE AGE OF THE GREAT CLIPPERS AND THEIR STRUGGLE FOR SURVIVAL AGAINST THE GRADUAL DOMINATION OF THE STEAM SHIP. ACCURATE HISTORICAL SIMULATIONS OF THE PERIOD BETWEEN 1854 AND 1880, INCLUDING MAJOR EVENTS SUCH AS THE AMERICAN CIVIL WAR, REVOLTS AND THE OPENING OF THE SUEZ CANAL.
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COVERDISK 61



This month, not only do we team up with German house Ascon, to bring you a huge playable demo of what must be the hottest strategy/trading game this year, but we also make enough room on the disk to bring you a completely playable level of Team 17's stunning new racer.

THE PATRICIAN

QUICKSTART GUIDE

We've made it nice and easy for you this month. Just follow these brief instructions.
1) Leave your machine off for at least 20 seconds, to stop the spread of viruses.
2) Write protect your disk. This is easy, just slide the black plastic block upwards until you can see through the hole in the disk.
3) Turn on the machine, and insert the disk.
4) Wait for the menu to appear on screen. This takes about ten seconds.
5) Now choose which of the demos you want to load and either click on the respective icon with the mouse, or press F1 to load 'The Patrician', or F2 to load 'F1 Challenge'.

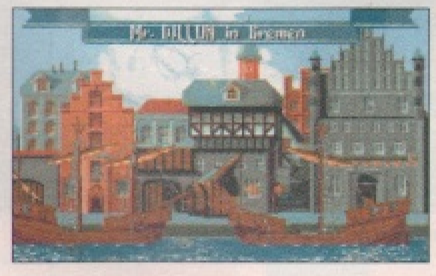
If you haven't heard about this blockbuster game from German publishers Ascon, then you're obviously the kind of person who likes nothing more than to spend large amounts of time in sensory deprivation tanks. Top of the German software charts for months, this unusual tale of the first ever European community – the Hanseatic league – has taken the strategy world by storm, and here's your chance to play it and see why.

Your aims are straightforward, but your route never is. Essentially you just want to become the Alderman, or Patrician as they are known. Before you go rushing for your dictionary, I can tell you now that the Alderman is the leader of the League, and master of all he/she surveys. To get there, you'll need to gain money and fame – the more people know of you, the more likely you'll be elected as Mayor. Once you make it to Mayorship, you're on your way!

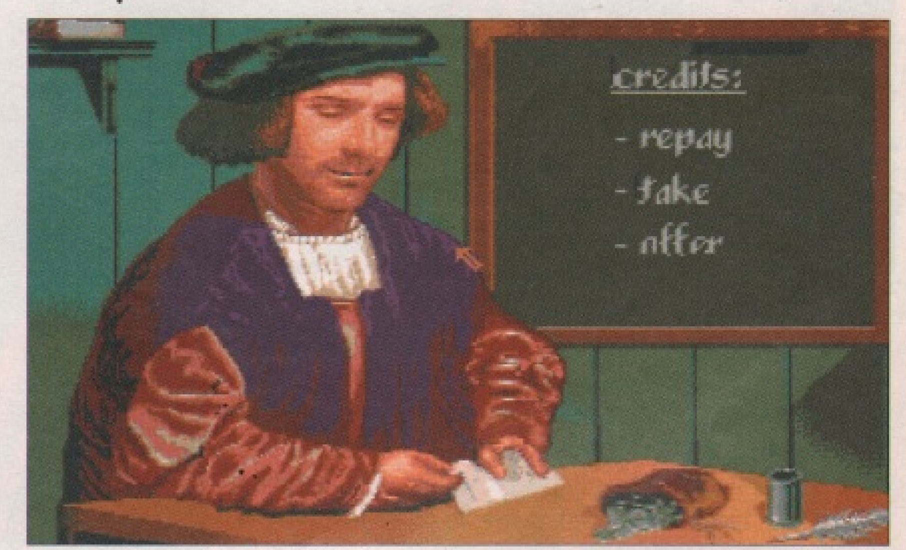
A trading game in essence, *The Patrician* can seem a little complex to the uninitiated, and we don't have the space to reprint the 64 page manual that accompanies the package, so here's a run through of our addictive demo. Load the game as per the instructions above, and then select start on the menu. You'll find it sign-posted in the bottom right corner of the screen. Enter your name, and you'll be prompted to choose a family crest and a home base by double-clicking on the appropriate icons. Select any one you like, as it plays no real part in our demo. Once this is done you'll be prompted for the name of player two. If you don't want a second player, just press return twice (up to four people can play at once).

YOU SHALL HAVE A FISHY

Now you're faced with the boatyard, where you'll see your fine vessel and various types wandering up and down. The first place you'll want to go is the town itself, so just click the right mouse button to get there. A word on the controls at this point. All actions are selected with the left mouse button, and the right mouse button exits the current screen and goes back to the previous one. If you enter your office, and then want to leave, just click with the right mouse button to walk back out onto the street.



In front of you is the town itself. All the towns in Europe look like this one, for the sake of convenience, with all the appropriate buildings in the same position. Now we're here, the first thing you'll want to do is take a look around. Click on any buildings you like, remembering to click the right button to step back out to the street. The first thing you'll need to do now is get some money, and the easiest way to do that is borrow some. Click on the banker's window to enter the bank.



The friendly, listening bank? We don't think so. Nice hat, though.

Inside the bank, you'll see a stern looking guy and a chalkboard. There are three options, but the only one we want is 'Take', so click on that and you'll be shown a list of possible lenders. Click on any one, remembering that you will probably be refused two times out of three – nobody knows you yet – and when you get to one who will lend, take the money they offer using the abacus (see panel on how to operate the abacus). Do this a couple of times until you have at least 1000 Thaler, and you'll be ready to do a little trading.

ON A LITTLE DISHY

Go back onto the street, and then click on your office door. Once inside, click on the scrap of paper on the wall next to the map, to see how far you've managed to get yourself in debt. And in so short a time! Still, no time to worry now, just click on the large book on the desk to find out what's on offer in the town, and how much they want you to pay. Clicking on the top corners of the pages turns them – there are eight pages (four for your ship and four for your stores). Find something that looks suitable cheap – hemp for example – and click on it. A message at the bottom of the screen will show you how much you can afford. Buy as much as you can using the abacus, and then click the right mouse button to exit to the office. Now click on the map to set sail.

Oh, you've just been told that you can't leave the harbour! Don't worry, we haven't recruited the crew yet. Click on 'Hire' and you'll be taken straight to the bar. You can also get there by clicking on the pub itself, but for the sake of this demo, we'll go this way. Now click on the group of men in front of the fire. Hire a modest »



In the boatyard you can have your ships repaired or, if you're wealthy enough, buy some new ones.

»



The kind of rough and tumble dive a hard-nosed seafarer like yourself will be used to.


This is your office. You have one of these in every town.

handful of crew members, twenty for example, using the abacus and you'll be taken to the map.

Move the mouse pointer to scroll the map from left to right, and click on the town you wish to sail to.

Once you've done this, a scroll will appear, giving you details of your journey, and announcing the harbour fee that needs to be paid before you can dock. Once you reach your destination, click the left mouse button to enter the town. You'll find yourself in a screen identical to your home town.

Now you want to sell your cargo. Go to the office (it's on the left, in the same place as your own office) and open up the book on the table.

All the prices are in red, and a message at the bottom will have the word sell. Find your cargo, and check the price. If it's more than you paid, sell by clicking on it and using the abacus to tell the game how much to sell. You've completed your first transaction! Now try to do another, and see if you can make some serious money.

WHEN THE BOAT COMES IN

Our exclusive demo only really scratches the surface of what *The Patrician* is all about. The finished game will not only feature all of the trading elements, but also a strong political and promotional aspect. We can't wait for it, can you?

THE ABACUS

Most of the game's decisions will be made on an abacus very similar to this one. You might wonder how it works, or you might have already figured it out.



For those who haven't, the numbers are simply the way to enter digits. After that, you have the small arrow pointing left, which deletes the last character you entered and a plus sign, which enters your figure. The large 'E' at the bottom works in the same way as the right mouse button.


This is City Hall. The boards on the walls tell of any boat auctions going on, as well as letting you know when the next elections are.

F1 CHALLENGE





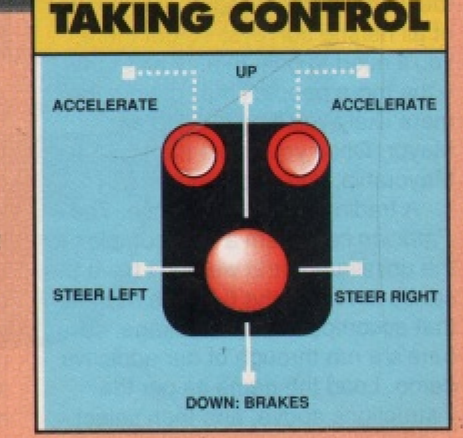
Above left: Screaming into a bend, and already you're far down in the pack. This is harder than it looks. Above right: The fully animated pit stop is just one of this game's delights.

What's this? Another playable demo of a Team 17 game? Honestly, we spoil you lot, we really do. This time there's no frogs, no guns, no lasers. Only the semi-open road and enough horsepower to move the earth, almost. Yes, it's Formula One racing, that perennial favourite, but this is one with a difference, as you'll see as soon as you load.

It's a sprite based racer, viewed in the classic third person perspective with your 'camera' behind and slightly above your own car. The finished game will feature seventeen tracks, and our demo lets you run a complete two-lap race with all 21 computer drivers. Can you win? Can you even make it to the first five over the line. The first person to do it gets a large bundle of kudos, on us.

The big difference, though, is the price. Load it and play it. Good isn't it? Full price quality, I'd say. But how about this, a full price game selling for only £10.99! Yes, you read it right the first time, £10.99. At a price like that, no-one will want to miss it, and if you want the chance to look really good in front of your mates, then load it up and get practising!

TAKING CONTROL



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Hi,
It certainly doesn't seem a month ago that I last wrote for Indi and what a month it has been.

With immaculate timing Commodore announced their superb Amiga CD, are Sega and Nintendo worried?

Interesting question, 32 bit technology, 16.8 million colours and the amazing AA chip set: what do you think?

But, more to the point, what does it mean to you if you currently own or were thinking of buying an Amiga 600 or 1200. First of all let's be clear, you cannot use the Amiga CD as a computer until there is a keyboard and drive option (promised for 1994). So if you want to do any more than run CD software remember you will not have access to the vast range of floppy based software on Amiga nor the processing power that makes the Amiga so rewarding if you want to do more than games play.

*So what does this mean to the current Amigas? To make it simple, the **Amiga 600** is a cheap entry level system perfect for the first time user or those working to a budget. The **Amiga 1200** is the elite system for the dedicated user who wants to access the speed and performance of this mid range system; you can upgrade later via an external CD solution promised to be hot on the heels of the Amiga CD.*

The Amiga CD should be available to dedicated games players in August. Phone INDI to check for pricing and availability; and don't be confused, both the Amiga 600 and 1200 are around for some time. In fact Indi have already finalised their plans for Christmas!

***Mail order purchasing** can be worrying, sending your hard earned cash to a company that may be hundreds of miles away, will your dream machine arrive as promised and what do you do if it doesn't?*

Indi is part of a very large company with their own in-house experts and systems and yet it still sometimes goes wrong. At Indi they have a Customer Care department who do nothing else but problem solve. So if Securicor couldn't find your house but will re-deliver tomorrow, or you cannot load a disk, they are there to help.

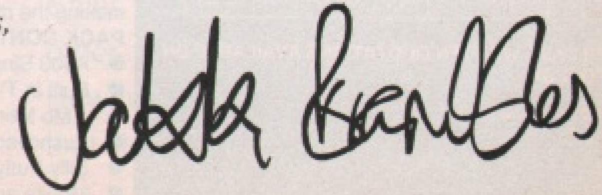
But what if the problem needs a fresh pair of eyes, perhaps you feel that you have been unsympathetically or unfairly treated?

*I was delighted to learn that Indi take their responsibilities so seriously that they have joined the **DMA.***

***The Direct Marketing Association** is a very serious organisation (recognised by the Advertising Standards Association and other such official bodies).*
Getting accepted is difficult, staying in required Indi to set and achieve real customer satisfaction and solve problems quickly if they occur.

I sincerely hope that all Mail Order Companies will follow Indi and display the DMA symbol on their advertising. If they don't you should ask them why not.

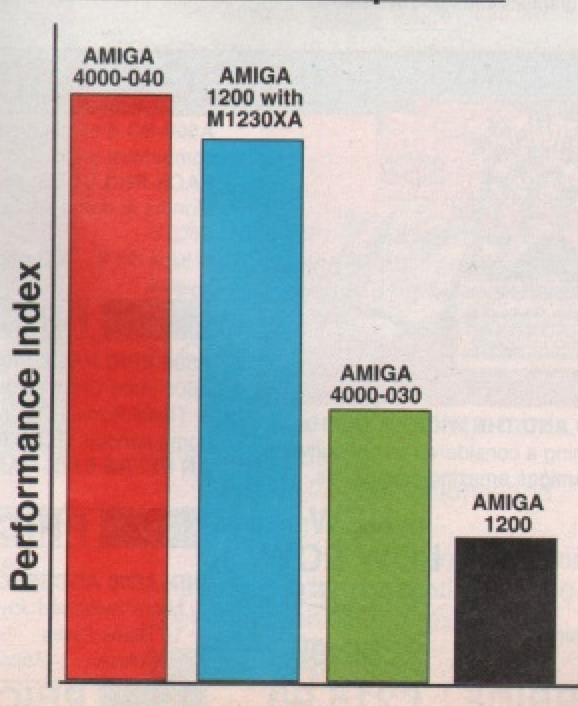
Regards,



STOP PRESS

Latest news on the Amiga 4000-030 shows demand out-stripping supply world wide. If you are having problems getting stock or perhaps feel disappointed that you opted for the A1200 before you knew about the new machine all is not lost. Check out the table on the right showing the A1200 fitted with the new M1230XA Microbotics accelerator available from Indi from

ONLY £299.99





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The INDI sales team have been trained to take your order with the utmost care and efficiency. All stock offered for sale is held in stock, centrally at our group warehouse complex and is available for next day delivery, direct to your home or business. If at any time we are out of stock your money will not be banked until the product is available (a point worth checking should you feel tempted to purchase elsewhere).

General information regarding product is available from our sales team, however technical support is always at hand should you need assistance.

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500	£54.99	£659.88	£31.06	£745.44	£23.27	£837.72
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AMIGA A4000

It's here - The new Amiga 4000/030

The NEW Amiga 4000/030 features a EC68030 processor running at an incredible 25Mhz, and upgradable at a later date to a faster processor. The 4000/030 has a powerful 4Mb of 32 - bit RAM (2Mb chip & 2Mb fast) expandable to 18 Mb using industry standard 32 - bit Simms module. In line with the Amiga flagship 4000/040 the 4000/030 features the new AGA graphics chipset, giving you a massive pallet of 16.8 million colours. A range of hard drive options are available form 80 - 240Mb and includes a SCSI option.

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THE NEW DUAL SYNC 1940/1942 Monitors have been specially designed for the New Amiga 1200 and 4000 computers. Both monitors feature built - in stereo speakers.

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1942 Monitor £379.99
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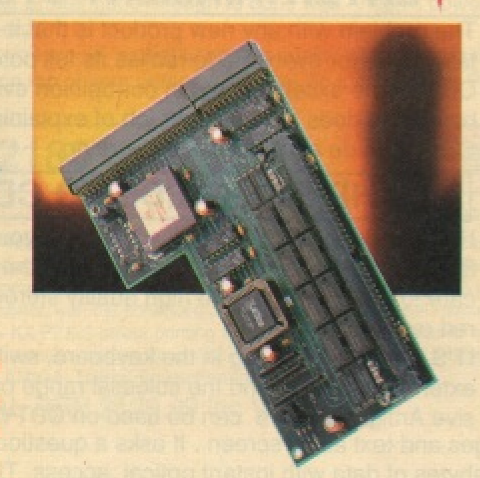
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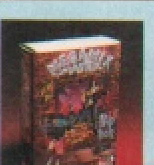
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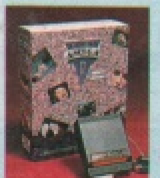
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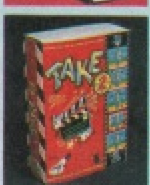
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THE NEW CD AMIGA

Just prior to finalising this advertisement Commodore have confirmed that the new CD Amiga has been **delayed until August.**

If there is any change then the INDI Sales Desk will be able to take your order.

However, Commodore are confident that circumstances will not change.



Full motion video

Now Showing...

The advent of a new age in home entertainment is upon us, with major electronics companies bidding for success in a completely new arena. Movies on your Amiga may seem like a distant vision of the future, but it may not be too many tomorrows before it becomes reality.

For many years now computers have toyed with images. In games, in training applications, in multimedia displays there have been animations and stills. Unfortunately there has never been a digitally stored moving image display system.

Laser discs are actually analogue systems, and whilst they are high quality the images displayed cannot be manipulated in the same way that a digital one could. So the world has had to put up with expensive, chronically limited systems, or low-quality substitutes for real images.

But not any more. The miniaturisation process, the thirst for compact power, has finally turned from the data manipulation hardware to focus on the data itself. Less is more is the philosophy of the modern shapers of technology.

Once again science mingles with philosophy as the white coats try to figure out the notional implications of assessing the information content of data. Borrowing from other sciences to try and explain the intangible, they are already droning on about bandwidths and entropy levels and being very depressing people to get stuck with at parties.

But the spin-offs along the way will improve the lives of everybody, so they say. Information is power, and the dissemination of information is becoming more diverse. One of the areas in which there is much to be gained by high data density is the world of the moving image. High-quality pictures have a very large information content. At a 24-bit colour resolution, a full-screen image takes up more than 1 Mb of storage space. To display sequences of these running at 25 frames per second, enough to give the illusion of realistic movement, is the stuff of dreams. Or it least it was.

Once again the toil has not been in vain. Four thousand years of human civilisation have finally brought us the capability to view the world in exact digital accuracy on a small box in the corner of our living-rooms. Soon the population will thrill to the sights of Arnie brandishing his nine millimetres in superbly stable digital images, games with interactive real-time video elements, and quite probably the relaunch of the CD single – now with added video.

Systems which once cost thousands of pounds will now be available to everyone who can afford an Amiga. The technology revolution has provided a mass-market solution at a reasonable expense. The media revolution will be in full swing again as a whole new wave of personal data systems is opened up.

The ultimate goal of a digital movie system is now within our grasp.

But it hasn't been easy...

The problems with FMV

In any digital playback system there is always going to be a trade-off between the quality of the final image and the speed at which it can be displayed (or the 'bandwidth' of the data transfer if you are heavily into Information Technology). Over time different factors have been the main area of concern, but for the present the bandwidth is the main area of worry.

It occurs early on that the only system capable of storing enough data on-line to make FMV movies or true multimedia applications possible at a domestic level is a CD Rom drive.

With 600Mb of data available on a CD, this gives a total of around 4k per image, and that's not including the soundtrack! This is a small enough space to work in, even if you spread the film across four disks...

The other problem with CD is one of bandwidth. A full quality, uncompressed 24-bit image takes up around 1Mb of data. The data transfer speed of a CD drive is about 150k per second. At a proper playback speed of 25 fps (frames per second) this means that each image can only be a maximum of 6k!



COLD COMPRESS

Obviously compression is the way to go – reduce the size of the data required. The best system for compressing 'natural' images is JPEG. Natural images are photorealistic ones where there are more gradually changing image areas rather than ones of high contrast. Obviously this would be great for movies. Unfortunately the best no-loss compression ratio is 5:1 – still requiring a bandwidth of around 5Mb per second – a speed which is difficult to achieve with some RAM devices, never mind an optical system.

JPEG still works well as a lossy system though. The compression ratios can be increased to 150:1, without too much of a reduction in quality – this would bring the required bandwidth down to 170k/second, not far from the grail of 150k/sec.



V-Lab in action. Considering this image was grabbed from a standard UHF broadcast it is of incredibly high quality.

DEEP THOUGHT

Once the insurmountable bandwidth problem is overcome (anything impossible is only a matter of time with new technology), there is another problem to face. Since it was designed for storing realistic images in the smallest possible space it is not surprising that little thought went into how long it would take to decompress the files.

Because of the layered conversion approach, there is quite a lot of processor time involved, and the more the file is compressed, the longer it takes to decompress it. Essentially this means that you may well achieve the required bandwidth but there is no hope of displaying the image in real-time unless you have a network of Pentiums or some other super-fast processor at the other end.

An average JPEG file will take around 40 million instructions worth of decompression. This means two seconds of processing on an A4000/040, or 10 seconds on an A500!

PURITY

The other method of reducing the bandwidth is to reduce the frame rate. It is possible to reduce the frame rate to around 15fps without a noticeable difference in the quality of playback. This whacks a huge 40 per cent off the data transfer requirements, but purists are against this. If it's worth doing at all, then it should be done properly they reason. When you consider some of the eventual uses (discussed later) this attitude seems to make sense.

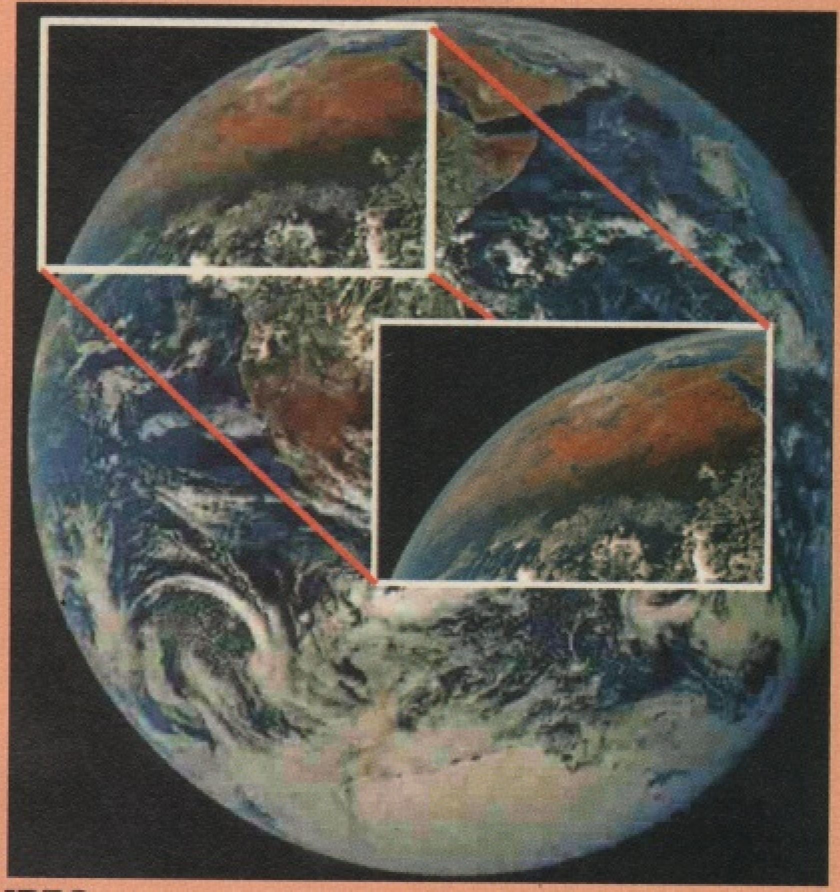
THE FRAME GAME

Of course, nobody ever said that you had to store the images a frame at a time. Anyone who has had their Amiga for more than a couple of days is bound to have come across an Anim, especially if they possess a copy of *DPaint III* or better. Anims are a special way of storing sequential frames of data. Most Anim formats use a technique known as differencing. This consists of working out the changes between one file and the next one in the sequence. This information is known as a 'delta' file, and it is usually compressed further using a technique known as run-length encoding.

»



Although this is a 24-bit V-Lab image, the Ham8 versions look not too dissimilar.



JPEG

The JPEG file-format was originally designed by the Joint Photographic Experts Group to enable realistic images to be compressed to realistic sizes. The theory is that the human eye is much better at discerning differences in areas of high contrast than those of low contrast.

The image is first translated into component values of Chrominance and luminance before the image is split up into a matrix of 8x8 pixel squares. Each of these components is then encoded by a DCT (Discrete Cosine Transform) which will result in each matrix cell having its own unique value. This process also removes any redundancy in the colour information.

The image is then quantised, reducing redundancy in the frequency range (e.g. if the image only uses 50 per cent of the luminance range, the luminance component can be compressed by 50 per cent without any quality loss).

In the example above, the JPEG image is at a 100:1 compression ratio. The inset shows the original image. Notice that although the green area has flattened out the clouds are just as sharp as the original.

» This method of compression can produce some very impressive compression ratios, but again the speed of decompression is a problem. A differencing algorithm has been developed through the ISO by a group called the Motion Picture Experts Group. These experts have designed a format for storing video sequences to varying degrees of quality, much in the same way that JPEG works. Because the images are not processed in the same way and they often use dithering techniques, still images from an MPEG sequence can appear to be of lower quality. However, MPEG has reached the stage where hardware MPEG cartridges will be available for some purposes. The MPEG algorithms are encoded into silicon and act like a separate co-processor dedicated to the uncrunching of files.

MPEG may not be suitable for some applications though, at least not in its present form. Because of the differencing method of compressing the data, it is not easy to remove frames randomly from the data without decoding many of the other frames in the sequence too. MPEG does have a provision for both forward and backward differencing methods, but these still rely on finding a nearby key frame. This means that short sequences may have to be encoded separately – not too much of a retrieval problem apart from a short delay between clips while the right file is being sought. Unfortunately the complexity of a workable algorithm may mean that encoding the data in the first place would require a very large system.



THE CONSOLE THREAT

The CD-consoles that have been released, and the ones still in development, such as the 3DO machine, may be high spec and have custom graphics chips, but they are woefully unprepared to provide proper FMV at present. The Sega Megadrive game, *Night Trap*, widely advertised on TV, looks even worse in real life. The bandwidth requirements have been reduced by padding out the image to slightly over half a screen, and dithering the image with white space. The result is something not unlike trying to watch a Casio hand-held TV through a sock. 3DO will be better, but by how much?

It may be possible to provide a hardware decompression expansion for some of these systems, but don't count on the consoles themselves being able to handle images at that speed anyway. The colour resolution would mean a low quality solution. Games released on this format don't stand much of a chance against titles on real CD multimedia systems like CD-i.

Development systems

It's all very well talking about the potential problems, but how would we go about recording all this information in the first place?



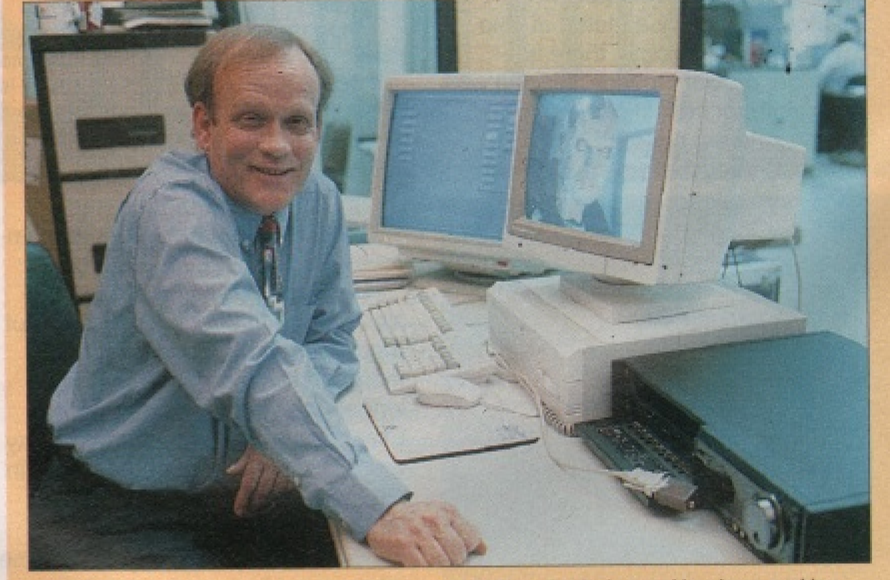
Proper digital TV broadcast to the home may be some way off, but here is a little preview thanks to the V-Lab hardware. Compare this to the freeze-frame on tour video!

We can talk about FMV in the home, but if development systems cost tens or even hundreds of thousands of pounds only a few corporations would be willing or able to make the investment. In order for digital FMV to become as valid a medium as video, TV or radio it has to be disseminated to the masses.

The biggest breakthrough so far by way of development systems is almost certainly MacroSystem's Interleaf Frame Grabbing solution. Using an Amiga, a video player, A V-Lab Y/C board and the new software anyone can create their own FMV titles.

This is another example of the appliance of cunning software to solve problems, instead of expensive hardware – a characteristic of Amiga developers in general and of MacroSystem in particular.

The problem with using real-life images in FMV, which everyone will obviously want to do, is that at some stage all the frames of the original video will have to be digitised. Good as they are, current frame grabbers (at least the ones that people can afford) are not capable of grabbing frames at the same rate they can be displayed.



Joe Benzing at Commodore is a keen exponent of FMV on the Amiga, and has been working closely with MacroSystem, the German company who have made it a reality.

The solution to this is, obviously, not to grab the frames in real time at all. Grabbing each frame one at a time is not only time-consuming, but also very expensive. A video recorder which is frame accurate and can display steady images in freeze-frame is not a cheap piece of equipment. A video recorder that can play back stable images at 25 fps is though, so this is the equipment that MacroSystem based their design around.

The system works by first isolating a key frame. It does this by analysing the start of each video frame as it comes in. Because the V-Lab is only analysing part of the frame, it can do this in real time. Therefore it is possible to identify an individual frame and also count the frames as they appear after it.

This means a key frame can be set as a reference point. What happens is that the software identifies a frame as the video is played. When the user gets to the point where they wish to start recording a sequence, they press a key and the V-Lab starts grabbing.

As it grabs the software also notes the frame number it started at (counting from the key frame) and the numbers of the frames which it has grabbed (because it isn't fast enough to get all of them). Once the sequence run is ended, the tape can be rewound and started again. This time the software identifies the key frame, counts into the start of the sequence and starts grabbing again. But, it already knows the frame numbers of the frames which have already been grabbed, so it ignores these and only grabs those which it has. The entire process can be repeated as many times as necessary until every frame has been grabbed.

The software will make a fairly accurate estimate of how many



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Screen shots taken from the Amiga version

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CD-i & MPEG

Philips are hoping to breathe life into their CD-i machines with the advent of the long awaited MPEG cartridge. The cartridge, imaginatively called the 22ER9141 Full-Motion Extension, simply connects into a socket on existing CD-i players which connects it onto the data bus of the machine.

There are three parts to the cartridge, a MPEG decoder for images, one for sound and a RAM cache of 512k for the image decoder. The benefits of a hardware based system come down to compression ratios. Quite simply, because of the greater speed of a silicon solution, the data can be compressed to greater ratios for storage and still be played back in real-time on delivery. In CD-i this means that a compression ratio of 140:1 is possible, allowing the playback of quality images accompanied by a stereo soundtrack.

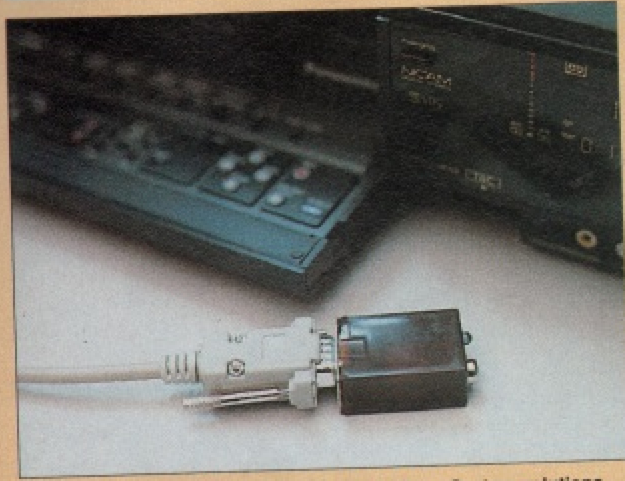
Sound, which on a CD plays back at 1.35 Mbit/second, is compressed to a data rate of .2 Mbit/second with apparently no noticeable difference in quality.

The first CD-i titles to feature MPEG support will be games which feature excerpts of real life video and possibly a few educational titles too.

Music videos on CD-i have already been demonstrated, but whether large music companies will be drawn to throw their weight behind one standard until the systems have proven themselves in the marketplace is open to question.

The CD-i copes well with the data rate and real-time compression. There is even facility for playing around with the image in real time – zooming in and out, stretching and so on.

Even if MPEG on the CD-i does become an industry standard, this would not necessarily effect the Amiga being able to replay MPEG too, and of course the development systems are independent from the playback route, so we may find Amigas being used to produce titles for CD-i!!



Cunning has always played a large role in MacroSystem solutions. This is the air-link which can control virtually any VCR.

passes will be required – often only six or seven. To fully automate the process, the hardware can even send a signal to the Video recorder to rewind and replay the section automatically.

This is done by an 'air-link' at present. This is simply an infrared device, plugged into the Amiga, which emulates the remote control unit of the VCR. The software cannot be expected to work out how long the rewind should be though – this has to be set by a value entered by the user. This does mean that the user should supervise the first run through the tape, but they don't necessarily have to be present for subsequent runs.

The real advantage of this system is the price. An A4000/030 with a decent amount of memory, a V-Lab Y/C and software, and a domestic VCR. Total cost around £1800. A much more affordable solution than those offered by Apple or IBM, and one which would allow semi-professional use too.

The replay software is capable of displaying the frames directly in real-time at 25 fps. This does not necessarily have to be played back from RAM either – a reasonably fast Hard-drive would suffice (A SCSI2 device will attain 25fps with no problems).

PLAYBACK

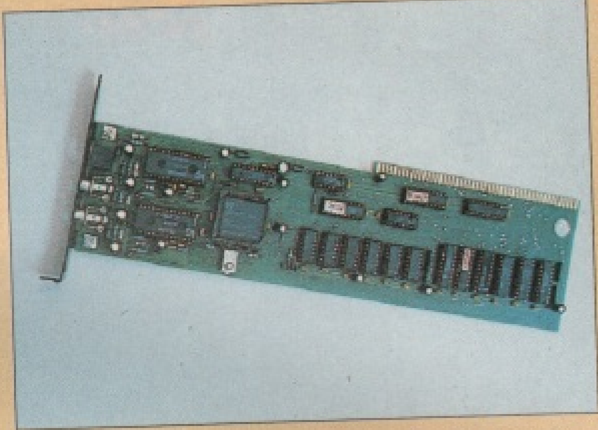
Apart from the MacroSystem software, there are a variety of playback utilities available for the Amiga. The advantage that Commodore has in this area is the experience of CDXL – the quarter-frame animation system developed for CDTV.

To a certain extent the problems faced by early developers have forced the development of a mature range of playback and editing software. One such product under development is *Bay* from Pantaray. Carl Sassenrath, the developer, has worked very closely with CDTV since its inception, so there is no doubt that this software will reflect the needs of third party developers. Most of the features at the moment are extensions of the old CDXL toolbox. This system also includes routines for random playback, so frames do not have to be stored in sequence or in an Anim format.

The importance of software solutions over hardware is more than just the initial cost. As anyone who owns an Amiga is bound to know by now, technology moves forward faster than we would like in a lot of cases. Today's hardware is often out of date before it is installed. It is a lot easier to update software to conform to the latest standard than it is to re-wire your hardware.

The Amiga is probably the best computer to handle the playback of sequences featuring high compression ratios. Since the custom chips handle the actual display (and sound if included) the processor can concentrate almost solely on the decompression of the images as they flow in. This has great advantages over the centralised processing power in the IBM PC and, to a certain extent, the Macintosh as well.

JPEG and MPEG can be decoded entirely in software by the Amiga's processor. It may not be as efficient but with a speedy processor reasonable attempts could be produced. Hardware solutions are always an option anyway. The Amiga's expandable architecture would make adding plug-in solutions easy.



The V-Lab Y/C card – the £380 card which makes it all happen.



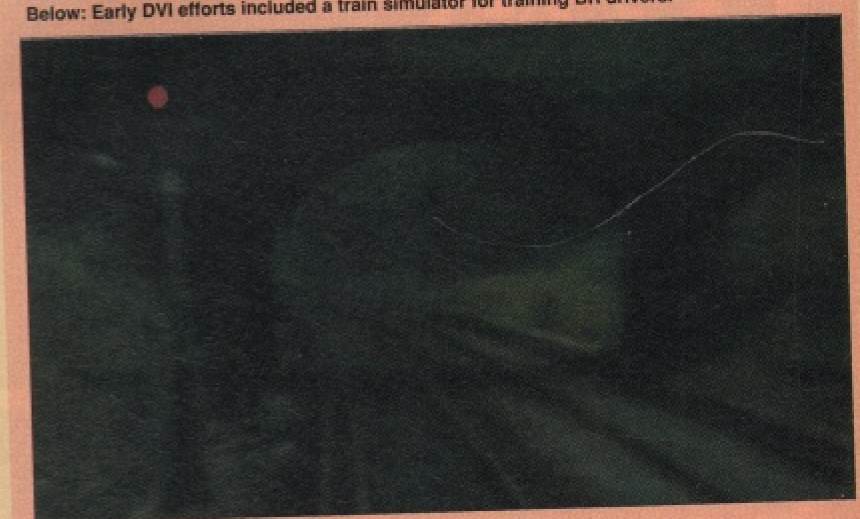
DVI

The PC version of Video is called *DVI*. This is a standard which had initial success in the early 90's and had the backing of silicon giants Intel. Because of the expense of both the playback and development systems, the clients were usually big corporations with money to burn on training systems.

Competing with multimedia systems based around Videodisc players was tough and the DVI standard has made no overtures to the lower end of the market. The main advantages of DVI were that playback could be at a user selected rate – something not possible with PC laserdisc systems, but this advantage was only effective in niche markets.

PC commitment to CD-ROM technology remains strong, but at a corporate level. CD ROM games are being developed and include some stunning full animation titles, like the just released *7th Guest*, but the majority of thinking is at a corporate level. The danger for DVI is that low-end mass market solutions may also turn out to be viable and cheap high-end solutions.

Above: PC CD-ROM disks have been used for interactive education for years now.
Below: Early DVI efforts included a train simulator for training BR drivers.





Movies on CD?

But why? It all seems terribly complicated and are people really going to throw out their VCR and buy a new CD-player just so they can watch the same films?

Well, initially, we won't see movies on CD. I know what it said on the cover, and someday it will be an option, but for the moment applications will be strictly limited to a few key areas.

Fortunately for a large number of Amiga users, one of these key areas is games. Compact disc technology has already infiltrated the games marketplace, with the consoles and the PC CD-ROM drives in the lead.

CDTV was an exciting product once upon a time, and is still an amazingly cheap piece of hardware for presentation and training systems, but very few were sold and the games industry wasn't prepared to invest heavily.

Most titles which did appear on CD were simply ports from the original floppies. The few titles which did make use of the extra capacity, like Virgin's *Polar Expedition* were more in the edutainment line rather than entertainment.

A few pioneering titles using CDXL to its fullest (and the NASA disk springs to mind here) did appear, but had no mass-market appeal. This is a bit of a shame, but if more CDTVs had been sold we may have had interactive-TV type games for ages.

FIRST STEPS

Undoubtedly the first FMV titles will feature small clips of movie quality graphics, possibly a film tie-in. At the same time educational titles like encyclopaedias will be able to feature video clips of volcanoes erupting, the stop frame animation of trees growing and so on. The ability to freeze frame will be important here, as is the ability to playback at virtually any speed from 0 to 25 frames per second.

To follow that, there will probably be a *Dragon's Lair* effort involving the playback of sequences chosen by the user's control-pad movements.

This may all seem rather unexciting but it is a process which must take place. As the formats develop, one system will become more popular than the other. This is not always a case of survival of the fittest (witness the VHS / Betamax battle) but more often a survival of the best marketed. This is a bit sad, because unfortunately it comes down to the media. People will buy what is touted as the best system by the press. But this isn't necessarily the consumer press, who may know what they are talking about. It is more likely to be the popular press, the newspapers whose idea of the best system is the one they can get the most of to give away in a super-soaraway competition.



In spite of its limitations, we are now stuck with the CD as a medium for all occasions.

CONVERSION TABLES

To make things difficult, there are lots of different ways of expressing speeds and access times. For audio, things are usually done in Hertz (Hz). One Hz is one cycle per second. One kilohertz (KHz)is one thousand cycles a second, and the frequency used for a perfect quality CD sample is 44KHz.

In computer terminology, the smallest division of data is one bit (makes sense). Eight, 16 or 32 (depending on the address size of the machine – 8-bit, 16-bit or 32-bit) of these grouped together are known as a byte and 1024 of these is known as a kilobyte (Kb). So there are 8192 bits in a kilobyte. 1024Kb is known as a megabyte (Mb), but for some reason, information is often quoted as being so many megabits (Mbit). A megabit is simply 10 raised to the six (10^6) bits of information.

This is a sad and demoralising conflict for the participants, but it is important. Only when this battle is finally over will we reach the next phase, when the big guns take over. Although initial support from Hollywood film companies may be forthcoming, these are the sort of guys who wouldn't think twice about ditching an idea if it didn't start to make big bucks very quickly, so don't think that if Warner (for example) decided to release titles on a 3DO based format that they would necessarily stick to it.

WE SHOULD BE SO LUCKY

Initially, it is likely to be the music industry which takes over. They are more adventurous than the film industry, mainly because they are mostly spending the artist's money and not their own. CD titles which feature compressed, but still CD-quality sound could also feature video sequences. This would be a leap forward from the already tried and failed CD+G format, and may revitalise the CD-single market.
At worst these could find a specialist market in video jukeboxes.
Conventional tapes are prone to magnetic and heat damage as well as wear and tear. The failure rate



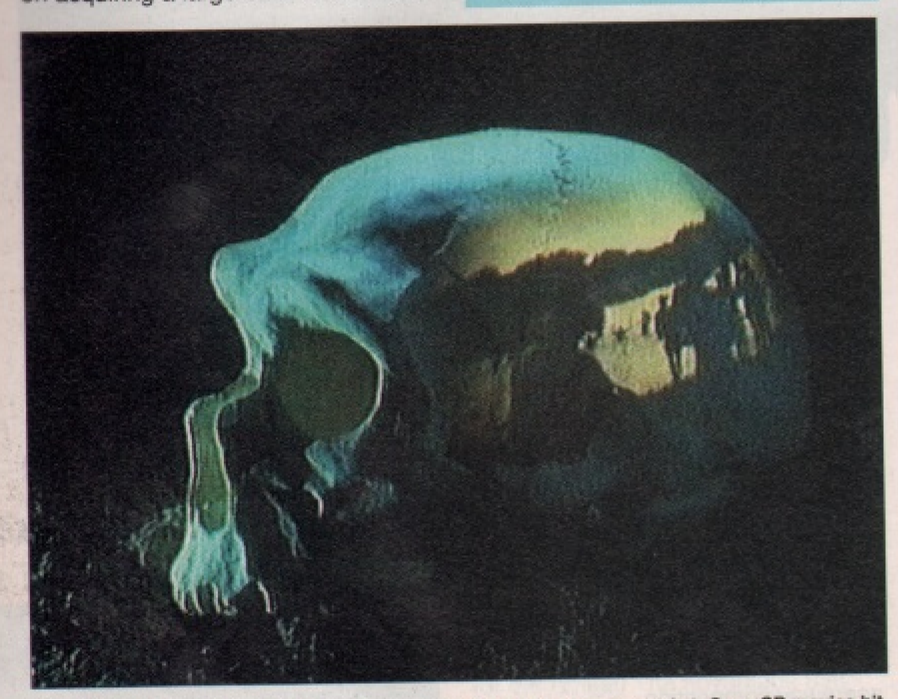
» makes them less attractive to distributors and end users. Videodiscs are currently employed in this market, but a switch could come from the manufacturers if development costs prove lucrative. The cost of pressing a few CDs would be significantly less than the cost of a laserdisc, simply because there are greater numbers of CDs produced already.

Philips are likely to lead the way in this field with their CD-i machine, and in fact they have already signed licences to do titles such as U2's *Achtung Baby*, Bon Jovi's *Keep the Faith* and the ubiquitous Paul 'Macca' McCartney's *Put it There*. But the long term success depends on acquiring a large base of installed units, something they have fared little better at than Commodore did with the original CDTV. Large marketing campaigns will be needed to convince the great unwashed that they urgently need a new way of watching videos. The Panasonic backed 3DO system is already anticipating a large marketing spend.

DATACRIME2000

This information revolution could also spawn some new datacrimes. The most obvious would be the visual equivalent of sound sampling. Pictures could be removed from a CD-movie and then quite easily processed to disguise their origin. The up side of this is that huge PD libraries of video sequences could be built up, enabling people to make movies on smaller budgets. Similar systems for film sequences already exist, but these aren't as flexible as a digital image.

Depending on how popular videophones become, there is a criminal potential for impersonation. This would already be possible with conventional video, but a digital system would be many times more flexible and more sophisticated.



The technology for multiple disc players already exists for the audio market. Once CD movies hit the high-streets, multiple disc players will follow swiftly behind.



It won't be too long before full length features are released on CD, in the same way that videos are today – in all probability the originals will eventually be mastered in digital format.

ROLL 'EM

The high end video applications are very interesting. With digitally accurate frames, there is the possibility of completely new methods of editing and even shooting motion pictures. the initial costs will be high, mainly because of re-training, so first usage of these techniques is likely to come from outside service bureaux rather than the big studios themselves.

Digital editing not only allows easier integration of effects sequences but provides new freedom in the editing process. With analogue and hybrid systems, no matter how good, there is always data lost through successive 'generations' of tape. Digital films would overcome this problem. There could be as many generations as necessary.

It would also be possible to do a whole range of post-production. With macro driven processing systems, scenes could be completely changed. It may take a while to perfect the techniques of turning a sunny day into a thunderstorm, but it is possible, and in the world of movies if it is possible it will happen.

This technology could leak into your living-room. Although a home recording facility would be out of the question for the foreseeable future (but when did we ever stop there?) the quality of playback could turn out to be far superior than conventional video.

If double speed CD drives are adopted, it may even be possible that a new High Definition TV standard will be based on a digital format, capable of being stored on CD. Unfortunately double speed CD will mean that the discs will only last just over half an hour each.

The ultimate evolution will be full movies on CD. They may initially appear on two or three disks, but they will appear. It is only a question of formats. Again CD-i may initially take the lead, having already acquired promises from Paramount to support CD-i in the development of full length movie titles. The initial releases may be sooner than you think – Bob Klingensmith of Paramount's Video division reckons that some titles will be shipping in the Autumn. It is difficult to see that any competitor could beat them to it. However, the first at the trough may not be the ultimate victor. The CD-i and FMV system will not be cheap, and a competitor should have plenty of room to maneuver on price. The actual format of the movie CDs may not come into it, it could be simply a contest between display systems. The MPEG format, or a variation, is likely to be the victor because it has been specifically designed for this use. The format is not exclusively licensed to any one playback system though, so anyone with the cash can jump on the bandwagon.

Digital quality pictures (which, even if they do have a lower colour resolution, will be much sharper than conventional video images) will easily supplant the video as the home entertainment system of the future. Or will it? The benefits to the manufacturers are clear. In the long run, tapes will take longer to produce, degrade in quality as they are mastered, have high failure rates and are easily damaged. These are the selling points they are likely to try and convince the mass-market on – well, all except one. You have to make a profit from new technology. Even as the House Committee investigating the price of audio CDs has passed its verdict, the big corporations are looking to increase profit margins elsewhere. The only ray of hope for the consumer in the short term is that the war of the CDMovie players turns into a price slashing contest, otherwise it will be elitist systems at elitist prices. CU

ACCESSING

Although the primary vehicle for FMV will undoubtedly be the CD, ordinary machines actually have a much better chance of displaying the information at a decent speed in high quality 24-bit vision (or at least HAM8). The league table is as follows:

CD ROM drive (e.g. A570)	150k/second
Double speed CD Rom (e.g. Toshiba)	320K/second
IDE drive (e.g. 2.5" A1200 style Toshiba)	780k/second
SCSI drive (depending on make)	700 - 1500k/second
SCSI2 drive (on SCSI 1 controller)	2100k/second
SCSI2 drive (on SCSI 2 controller)	5500k/second

Obviously you would still need a very large amount of room on a hard drive to display this data, and 600Mb SCSI 2 drives aren't as cheap as CDs, but high end systems could use a mixture of both, using the high-speed drive as a buffer.

THANKS

This mostly analogue feature would not have been possible without the help, co-operation and cheesy biscuits of the following: Joe Benzing of Commodore, Jörg Sprave from the most excellent MacroSystem, John Kennedy, Jolyon Ralph of Almathera and Sarah Auckland of Mathieu Thomas but most of all thanks to Wodge for going on holiday during the writing of this feature.

INTO THE VALLEY

What makes Great Valley Products so great? CU caught up with their globetrotting head honcho Gerard Bucas and asked him.

Great Valley Products (GVP as they're usually known) started life five years ago. Their aim was to construct and sell a wide variety of peripherals to Amiga users across the globe. When they began, the peripheral market was dominated by Commodore because they were the only company large enough to mass produce hardware at a price that people wanted to pay.

From those humble beginnings, GVP have risen to be the largest third party Amiga add-on supplier in the world, with a turnover which exceeded 40 million dollars last year. Many of their key technical staff are ex-Commodore employees who are uniquely qualified to develop what have proven to be some of the most innovative peripherals ever to see the light of day.

Gerard Bucas, as ex-Vice Chairman of Engineering at Commodore, exemplifies this principle better than anyone. Therefore, CU AMIGA was very happy when he agreed to spend considerable time answering our questions.

CU: When you released your HD8+ drive for the A500, you said that it would be possible to add an accelerator to the drive. As it proved impossible to create a small enough accelerator, will you be offering existing HD8+ owners a trade in for the new A530 Turbo?

GB: From the first day that our award winning A530 Turbo was available, we had a very exciting trade up offer for A500-HD8 owners, many of whom have taken advantage of this. Recently we have made this offer even sweeter (around £300 RRP inc VAT assuming that the user keeps his/her own hard drive!)

I wish that somebody would explain to A500 owners that their machine is far from obsolete and that with less money they can get more power and expandability for their A500 versus the A1200. AGA is great but very few people actually NEED it (except magazine reviewers of course!!!).

CU: With the recent price drop in your PC emulator for the HD8+ and A530 turbo drives, is there any likelihood that we'll be seeing a 386 or even a 486 emulator from you before much longer?

GB: No. We found the market too small for PC emulators. Everyone likes the idea of PC emulators but too few people are willing to fork out the cash required to actually buy one. As a result we were forced to drop the price on our PC286 emulator to bargain basement level pricing at which we can't make any money on them! Great for the consumer but not for us.

CU: Whatever happened to the GVP EGS card?

GB: The EGS-110/24 board has been shipping since May. Development time was a lot longer than we expected. It's a great product for the 'Real Graphics' people out there. There's nothing comparable on any other platform – it must be seen to be believed.

It attaches to our G-Force '030 and '040 accelerators for the A2000 so only those lucky owners will be able to turn their Amigas into the most exciting graphics machine on earth. It's expensive – for connoisseurs only!

We are also working on a new 'Beyond AGA' EGS board which will be the world's first 'auto-sensing' Zorro-II/III bus expansion board and will automatically configure itself in a 16-bit bus mode machine. This product will also be more affordable (less than £500) than the EGS-110/24 which was really intended to be the best graphics board for the Amiga that money could buy!

CU: What about a 500/600 compatible board?

GB: No plans for A500/600 24-bit boards. Sorry!

CU: Considering the fact that the European market is far bigger than your native American one in terms of the quantity of Amiga owners, will the level of consultation with, and consideration for, European users reflect the balance?



GVP were quick off the mark to offer support for the A1200, with a range of Ram expansions and accelerators.

GB: In monetary terms, our sales are still around 50 per cent in the USA due to the fact that US Amiga owners seem to be willing to part with more dough (per capita) than their European counterparts on upgrading their Amigas. However

we ALWAYS consider European users and you should have noticed that our products are launched simultaneously in Europe and the US.

To my dismay, European users seem far too willing to buy from 'fly by night' companies who offer five-year guarantees when they (the companies) never last more than one year. The old adage 'penny wise, pound foolish' is very appropriate to the Amiga market.

CU: Why don't you have a British or European office?

GB: As soon as British or European users spend more money upgrading their Amigas (with GVP products) we will change this.

CU: With your recent graphics products (IV-24 and G-Lock) it seems logical to add some form of graphics digitiser to the stable. Is anything in the pipeline?

GB: We already have the best video digitiser built into our IV-24 product. Most journalists seem to ignore this. In its basic form, the IV-24 could be considered as the best genlock for the Amiga with a built-in real-time 24-bit frame grabber (digitiser) and a 24-bit frame buffer and a host of other features to boot.

Compare this to something like Opalvision, which is simply a 24-bit frame buffer with other features (like frame grabbing and genlocking) too, offered as options 'real soon now'. The press are amazing aren't they...?

Anyway, back to the video digitisers for the A1200 (as we already have the best for Zorro II/III machines), all I can say is stay tuned, we will have one for the A1200 before the end of this year. And it will be affordable too!

CU: Your office reported that it was difficult to fit the 68030 accelerator into the A530 drive. Does this mean that an '040 version of either your A530 drive for the A500 or the 1230 card for the A1200 is very slim?

GB: The main problem with the '040 is actually heat dissipation (as well as space issues). However, there are ways of solving these problems but they take time. Rest assured that we are not ignoring this issue...

CU: Although the circuitry of your accelerators and SCSI cards is proprietary, you still use a lot of off-the-shelf components which to a certain extent restrict the degree of miniaturisation possible.

Have you considered designing your own processors, etc, so that you can increase the ultimate power of your hardware?

GB: We are still the only company in the Amiga market that develops our own custom VLSI ASICs. We continuously look for ways to increase integration and thereby squeeze more functionality into less space. Look at the evolution of our products; the decrease in the number of components compared to the increase in functionality over the past five years in the Amiga market is incredible!

CU: Thanks to the new AGA machines, ordinary users can produce near-broadcast quality graphics for less than £400. Does this damage your market, or does the increased interest in this kind of work benefit you?

GB: There are always new and exciting products to be conceived for new Amigas. That is a challenge that we like. We have lots of ideas. The more Amigas people buy, the better we like it!

CU: There seem to be ever increasing numbers of rival companies who produce similar products to your own. Is this a problem? How are you remaining competitive?

GB: Last year GVP achieved sales of over 31 million dollars in Amiga products only! Our closest competitors probably achieved sales under $4M (almost eight times smaller). In fact, other than Newtek which really markets a single Amiga product in the USA only, there are no serious players in the Amiga market.

This means that our economies of scale and engineering budget are such that we manage to stay far ahead of the game.

I'm not sure who the 'many competitors' are that you refer to, we don't seem to come across them. In fact, due to the worldwide economic climate, we are finding that every month another Amiga developer falls by the wayside. I'm worried that soon we will be a monopoly (not good for anyone, and no longer a challenge).



Of the many products released by GVP over the years, only a couple could be considered, by their standards at least, to be failures.

CU: Now that the A1200 and A4000 are available, will you continue to develop hardware for the other Amigas in the range?

GB: We will continue to support the older Amigas as we believe in supporting our customer base. A good example is our new 'auto-sensing Zorro II/III' technology which I mentioned earlier.

CU: Do you think that the Amiga has much of a future? Dare you to guess how many years it has left!

GB: Depends on Commodore! I believe that there will always be a market for a computer for people who 'want to be different'. These are generally the people that the Amiga appeals to. The original Amiga marketing theme is still true today, the Amiga is really 'The computer for the creative mind'. That is why it has survived against many odds. Hopefully Commodore can remain creative and keep the technology evolving faster. Time will tell.

CU: Do you think that the Amiga will ever make a significant impact on the PC and console markets?

GB: Not on the PC market. Maybe on the console market if Commodore can afford to match the marketing budgets of some of the big players...

CU: Despite its initial promise, the PCMCIA slot of the A600 and A1200 doesn't seem to have been exploited at all. Are you developing anything for it and if so what? If not, why not?

GB: How about a 16-bit audio digitiser with 16-bit playback module for under £200? Stay tuned...

CU: What sort of relationship does GVP have with Commodore US and how important is this relationship to your business?

GB: We have a very good relationship with Commodore in the US and this is very important to our business. As I used to be vice-chairman of engineering at Commodore in West Chester and we are located only 20 minutes from Commodore's corporate headquarters, we do seem to have some advantages...!

CU: With the ever more compact circuitry used in Amigas, a portable version seems increasingly feasible. Is this something that GVP have looked at, or do Commodore hold all the cards in that regard?

GB: We are not interested in doing this. There are many technical issues still to resolve and there's also a very questionable market size due to the fact that the Amiga is virtually unknown in the corporate world. I doubt Commodore »



Possibly one of the most innovative and flexible peripherals ever designed for mass-market appeal was the A530 – a combination of a hard disk, accelerator and expansin system in one. Unfortunately it is no longer compatible with any Amiga currently in production.



» has any interest for the same reasons. This is only a dream of Amiga magazines (who don't have to sell the things they dream up!).

CU: How long does it take to develop a product such as the A530, and how much is spent on research?

GB: It takes about 12 to 15 months to develop something like the A530 and it's very expensive. Tooling charges alone can cost around $50,000.

CU: Considering the adverse effect that the current exchange rate has upon your pricing policies, have GVP considered following Commodore's lead and setting up a European manufacturing plant, especially considering the positive implications of the single market on pan-European distribution?

GB: We are always looking at ways to improve our bottom line!

CU: A criticism levelled at a lot of GVP products is 'Great hardware, shame about the software'. Does GVP feel it has a problem in this area?

GB: I have not heard this criticism except about version 1.0 of our *Macropaint*. Look at the hard disk installation software. We set the trend and everyone followed. Phonepak software, G-Lock software, Audio software, etc...

CU: GVP has a reputation for innovation in Amiga hardware. Do you think that this is deserved and why?

GB: We are definitely the innovation leaders in the Amiga market. We took the Amiga market seriously from day one, and from day one we tackled the global market. We do not consider ourselves a US company but rather a world company that happens to be based in the USA. Our engineers are mostly senior ex-Commodore engineers who know the ins and outs of the Amiga more intimately than anyone else in the world.

We are willing to spend long-term money on serious R&D and make the investments for the future. No-one else in the Amiga market has managed to achieve this. I don't really know why as the formula is simple. As a result we have been around for a long time and today there is no-one even close. Serious Amiga owners appreciate this and hence buy more and more of our products – again peace of mind is critical here.

CU: Do you really think that IV24 represents good value for money when weighed against a combination like Retina and V-Lab?

GB: This is an amazing question! Only in the UK do we have this bad perception of the IV24. I cannot understand this. The IV24 is one of our top products everywhere except in the UK. We've recently lowered the price drastically to see if this will make any difference over here.

The Retina is simply a 24-bit frame buffer which has no video capabilities. The IV24, on the other hand, is the best genlock for the Amiga, the best real-time frame grabber, the best flicker fixer and a 24-bit frame buffer and a video transcoder (any standard in, any standard out) and it includes a two input video switcher and it can run *TV Paint* (if you don't like the *Macropaint* program supplied with it). There is truly no comparison.

I just can't understand why the IV24 is constantly compared against simple 24-bit frame buffer boards.

Although the IV24 includes a built-in 24-bit frame buffer, this is probably one of its least important features.

CU: Do you feel that your products are technology led or market led?

GB: Yes, no question!

CU: Are there any aspects of GVP which you are unhappy with?

GB: Yes, we have more ideas than time to implement them!

CU: Which of your products do you consider to be your best and why?

GB: A530, A1230, G-Force-040/33, Image FX, IV-24, G-Lock, Phonepak, and our new DSS8+. The reason? Technical excellence.

CU: And which is your worst?

GB: Our '040 accelerator for the 3000. It should have been cheaper and faster.

CU: What do you consider an acceptable failure rate for hardware such as the A530?

GB: Less than 1%

CU: What is the actual failure rate on the A530?

GB: One of the lowest of all our products (partly due to the excellent cooling/airflow design of the A530 case).

CU: If you were in charge of Commodore what would you be doing differently?

GB: No comment at this point.

CU: What is the biggest problem facing Amiga developers?

GB: The market is too small and spread out over too many countries. Software piracy is high due to the low number of corporate buyers (who buy more and pirate less). Not enough UK A500/A600 owners upgrade their machines.

CU: What fundamental change would you like to see made to the Amiga?

GB: All changes should be evolutionary, but 'beyond AGA' is required sooner to compete with PCs and Macs.

CU: How would you sum up GVP's business philosophy?

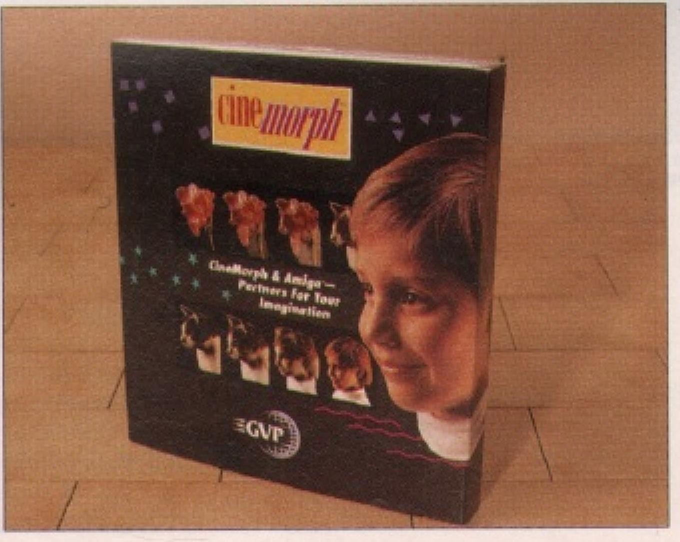
GB: Longer term commitment, support the customer, innovate and stay profitable without sacrificing quality.

CU: Over the last year or so, GVP's prices have fallen considerably to the point where they now compete directly with the competition. How have GVP achieved this sudden drop in price?

GB: Recent price drops have been due mainly to changing market conditions caused by Commodore's discontinuation of the A500 and A2000 and the major decline in pricing of bare hard drives and other key components. To encourage A500 and A2000 owners to upgrade their machines (versus buying new models) we decided to take a significant drop in our own profit margins on existing stock.

This means that some of these prices could be for a short time only! As a result, the consumer gains and there has never been a better time to buy these products. This is a real (but temporary) bonanza.

So, the ambitious and modest Mr. Bucas is still ready to take on the world and win. GVP's commitment to the Amiga should allay some fears for the machine's future. Now what would happen if GVP bought out Commodore?



GVP have recently become interested in producing their own application software. Their first forays have been with *CineMorph* and *Image FX*. The move may have been prompted by the reaction to IV24, whose bundled software included the unfortunate *MacroPaint* and a critically handicapped version of *Caligari*.

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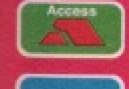
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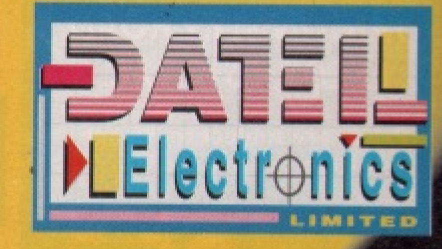


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SCREEN SCENE

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93% and a game's worth a Superstar. We hardly throw them around, but if a game gets one it'll be completely outstanding.

Once more the CU AMIGA team take a peek into the future of computer entertainment as we'll know it.

FIRST

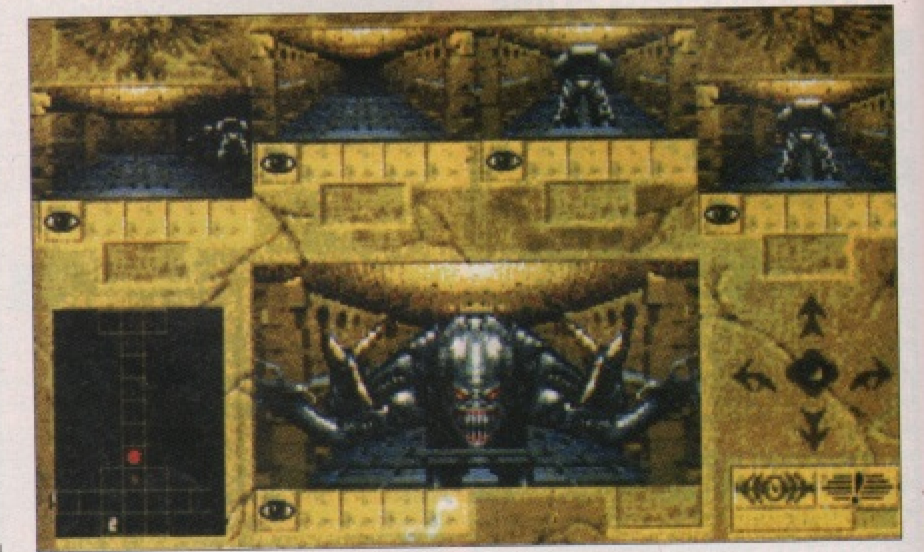
SPACE HULK

ELECTRONIC ARTS

With D&D style board games as popular as ever, Electronic Arts have teamed up with RPG giants, Games Workshop, to produce the conversion of their hit title *Space Hulk*.

The game is set aboard a gigantic space craft, called a Space Hulk, which is infested with aliens. As commander of a team of heavily armed space marines you're orders are to board the ship and eliminate everything you encounter.

Space Hulk is shaping up to be radically different from the Gremlin Games Workshop licences. For starters it's played in real-time rather than as a series of turns. This has led to the inclusion of a new RPG concept called Freeze Time. When you activate Freeze Time the game stops, allowing you to issue orders to your men. The snag is you only have a limited amount of time, so you have to work fast.



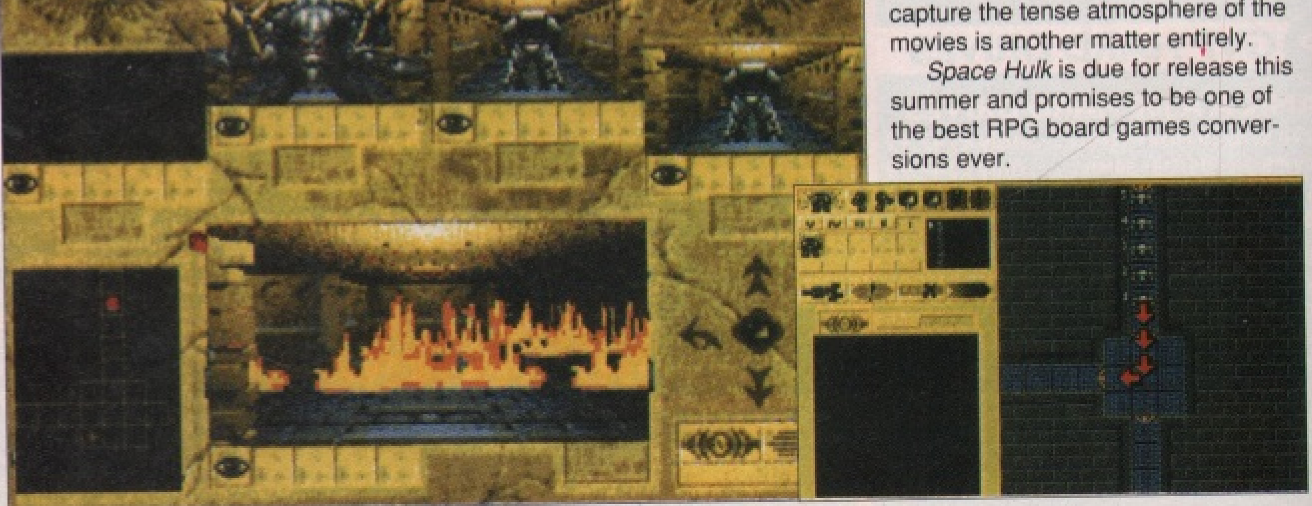
Unlike the previous two Gremlin GW RPGs, the game is played from a first person perspective. This has given the programmers plenty of scope for including loads of slithering aliens and their appropriate death animations. The orders are issued on a 2D map screen, then the action switches to the 3D view.



Your marines are a totally hard bunch of cookies. Because of the rigours of combat, normal humans wouldn't survive the opening exchange in a battle, let alone exterminate an army of aliens. So the Marines are outfitted with gigantic power suits and whopping great guns which makes their job a lot easier. It also gives the players lots of extra weapons to collect and try out on the various creatures they encounter.

One of the most noticeable features of the game is the gore-content. Some of the alien nasties are incredibly detailed, and wouldn't look out of place in a top budget sci-fi horror movie – they're that realistic. Indeed, *Space Hulk* owes much of its inspiration to the three Alien movies and many of the alien creatures roaming the decks are definitely Giger-inspired. Whether the game will capture the tense atmosphere of the movies is another matter entirely.

Space Hulk is due for release this summer and promises to be one of the best RPG board games conversions ever.



IMPRESSIONS

URIDIUM 2

RENEGADE

If you bought your first computer within the last five years, you'll probably be wondering what happened to the first *Uridium*. The answer is that it was the flagship shoot 'em up on the Commodore 64 in the mid-eighties, and with many fans of the game still out there, programmer Andrew Braybrook has decided to take his original game and produce the sequel for the Amiga.

The game's concept is nothing revolutionary, merely being a sideways scrolling shoot 'em up. What made the original so great was its incredible speed and awesome graphics. These features have survived the ravages of time have been included in the Amiga version.

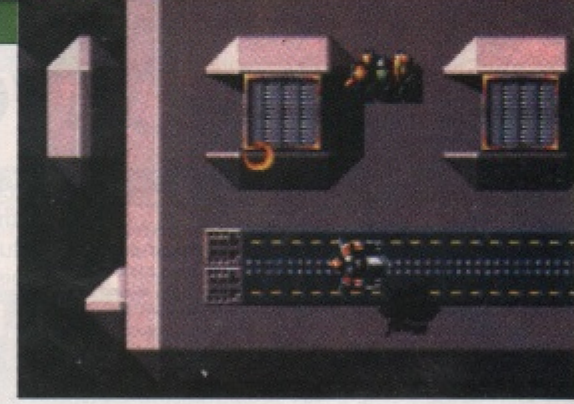




Each stage is drawn in 32 colours, with a multitude of sprites winging their way across the backdrop. You control a deadly Manta fighter as you attempt to destroy several enemy fleets. At your disposal is an arsenal of lasers, bombs and torpedoes, each of which has its own uses. Completing a level isn't as simple as getting from one side to another. Before you can land your Manta you have to collect a number of victory tokens, which are dropped by certain craft when shot.

When you finish a level you enter a bonus stage where you leave the safety of your Manta to take on a boss creature face to face. You'll need to keep your wits about you here in order to avoid the barrages of homing missiles that are launched in your direction.

If Braybrook manages to keep the speed and playability of the original, Renegade will be onto a real winner. We'll just have to wait and see what the finished version looks like in a couple of months.



MICRO MACHINES

CODEMASTERS

You may not have heard of this game, but it's gone down an absolute storm on the Megadrive. Basically it's a race game involving many of the vehicles in the Micro Machines range. There are formula one cars, speed boats, helicopters and dune buggies. It doesn't look like much from the pictures shown here, but this is without a doubt one of the most addictive and playable games in years.

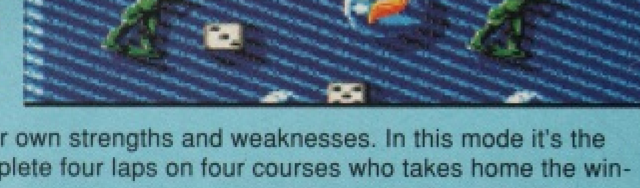
Four vehicles compete in each race, with one or two human players. In two-player mode the aim isn't to cross the finish line first, it's to get your car to the edge of the screen more times than your opponent. Needless to say this has lead to the inclusion of all sorts of hazards designed to block unwary players.

Because the vehicles are Micro Machines, the settings are appropriate for their size. The boats race in a bath tub, the cars on the breakfast table with Cheerios as the hazards and the helicopters go for a spin in the garden.

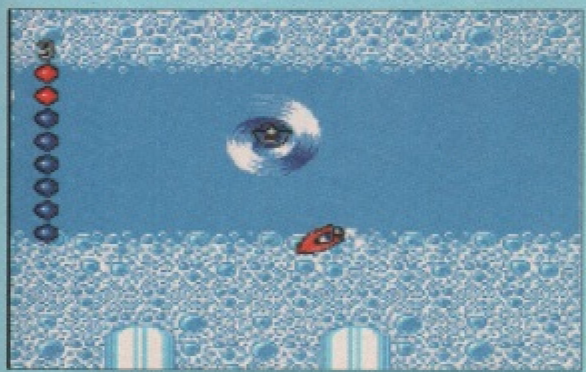
The graphics are nothing to look at, but what makes them work is the speed and smoothness of the scrolling. The vehicles are forever bouncing off objects and the rebound scrolling routines are fab.

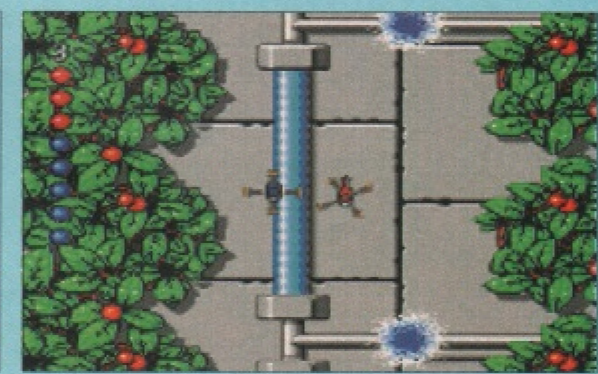
If you don't have a buddy to hand and are playing a one-player game, you'll find that the action takes on a whole new angle.

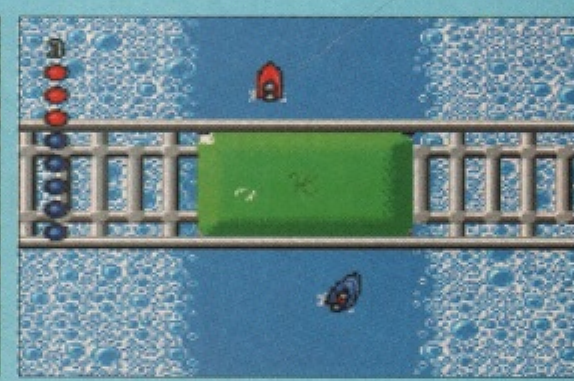
There are a dozen computer characters for you to race against, and each of them has been endowed with their own strengths and weaknesses. In this mode it's the first player to complete four laps on four courses who takes home the winner's trophy.



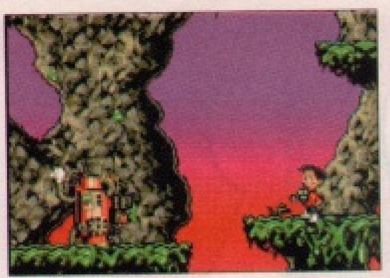
If the Codies can retain the speed and playability of the NES and Megadrive versions of this game, there's every chance they could produce one of the top titles this year. Well worth watching out for.







» GLOBAL GLADIATORS
VIRGIN



Global Gladiators is just one of a long line of Sega to Amiga conversions currently being tackled by Virgin Games – this time coming from the Megadrive smash hit *Mick And Mack* (not to be confused with Elite's *Joe And Mac*). In case you haven't already noticed from the screenshots, Mick And Mack is McDonalds' entry into the gaming arena, and it's a game with a message.

McDonald Land has a problem. Pollution and litter is damaging the environment, and only two hapless youngsters can possibly help. You, as Mick or Mack, have to ramble through four huge levels, from a barren forest to the even more barren mountain wastes, with your only aim being to collect the familiar McDonald arches wherever you find them, and you could find them anywhere.

You'll meet all sorts of nasty, slobbering beasts, all deformed and twisted by the toxins floating around in the air. Large piles of goo spit at you, green birds fly overhead doing whatever it is that birds do when they fly overhead. Later there are manic polar bears and the odd insane fish to deal with.

Should you do particularly well on a level, you'll find yourself in the recycling bonus game, where you have to race around a shopping mall collecting litter and dropping it in the right bin. The message comes through loud and clear – keep this planet tidy.

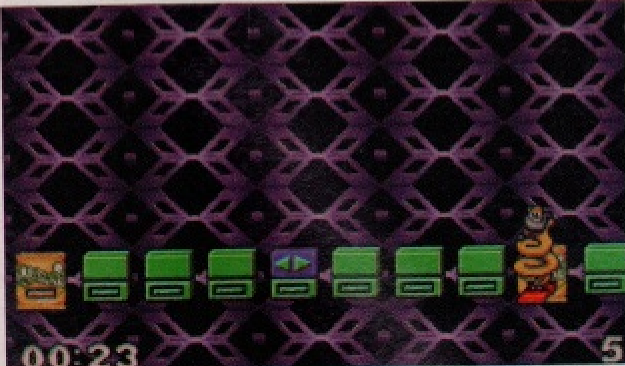
In its console form *Mick And Mack* received more rave reviews than you've had hot dinners, but it remains to be seen how well it will carry across. Although it's early days, one thing that has definitely made the transition is the superb animation and backdrops. Like many platform games, if you leave the main character alone for a moment, they will do something to attract your attention. They spin their guns, stretch their bubblegum, wink in a knowing way and do all sorts of other motions until you start moving them again.

Global Gladiators is due for release in July or August, and we'll give you more news as we have it!

ONE STEP BEYOND
OCEAN

Following their first game-of-the-crisp *Pushover*, which was licenced from Smith's Quavers, Ocean have come up with *One Step Beyond*. Where the first game featured an ant which had almost nothing to do with crisps, this game actually stars their main promotional character Colin Curley.

Like the first game this is also a puzzler. The aim is for Colin to leap onto every platform on the level, the catch being that he can jump on each one just once. Normally he can only jump left and right but there are several types of special platform which catapult him up and at angles to other parts of the screen.





When he lands on one it closes shortly afterwards, so he has to leap to the safty of another. Only when all the platforms are shut can he leap to the special Quavers' platform and end that level.

Some platforms are designed to make life difficult, such as the horizontal opener. This platform extends all the others in line to it, so Colin has to go back and jump on them all over again. Naturally this is where the bulk of the puzzle solving comes in as you have to suss out the best route for Colin to take.

Along the way there are plenty of plugs for the crisps and Colin himself does that twisty business he does on the ads. It's shaping up to be even more absorbing than *Pushover* and you can check out the finished item in the next issue of CU AMIGA.

STARDUST
BLOODHOUSE

Arriving with the intention of bringing cheap software to the over-priced markets of Europe, Finland-based Bloodhouse are gearing up for their first release, *Stardust*.



Basically the game is *Asteroids* – with a vengeance. This time the asteroids are the least of your worries as you also come under attack from legions of space creatures. There are five different areas, each containing six levels which have to be completed in order for you to progress.

The controls work in much the same way as the classic coin-op. Your ship can be rotated clockwise, anti-clockwise and moved only in the direction it's facing. For added protection you have a limited supply of shields, although once these run out the next hit is fatal. Linking each area is an incredible 3D section where your joystick skills are tested to the full. All the graphics are drawn in 32-colour mode, with objects such as the asteroids rendered in fractals.

Stardust is shaping up really well, and with its low price tag it's promising to be one of the big success stories of the summer.









SYNDICATE

The streets are awash with the blood of mangled corpses. No, it's not a typical night on the town for the CU crew. It is, in fact, the latest ultra-violent game from Bullfrog.

Since Bullfrog burst on to the scene with *Populous*, they've gone from strength to strength building a reputation as one of the finest development houses this country has seen. With their latest game, *Syndicate*, they appear set to surpass all their previous achievements.

Syndicate has been in development for over three years now, and almost everyone at Bullfrog has had a hand in it at some time. The result is one of the most violent and original games the Amiga has ever seen.

It's set almost 100 years in the future when the world is run by giant corporations. These syndicates forgo the traditional backstabbing and under-the-counter deals of present day business. When they have a problem they reach for the button marked 'the lads' and send them in to blast the opposition into submission.

MOB HANDED

As a young exec in a small, rapidly failing syndicate, it's your job to turn business around through a series of kidnappings and assassinations. Naturally you don't want to get your hands dirty, so you pay a visit to the vaults to thaw out some of your cryogenically frozen operatives. These are everyday people who were snatched off the streets by other agents then sent to the company labs to be 'altered'. This process involves erasing their memory, inserting computer chips into their spinal column and replacing various limbs and organs with synthetic parts.

These agents are so hard they make the Terminator look like Bambi. Completely devoid of feeling they'll shoot anything you tell them too, and when they get nervous they'll open up at anyone who gets too close for comfort. Bullet wounds are just ignored, it takes a rocket launcher to bring one of these guys down.

From your position in a blimp high above the play area you control one to four agents per mission. The control system is very easy to get to grips with – you simply click on an agent's icon, then at the part of the town you want him to go to.

Alternatively, using the right mouse button instructs him to shoot in that direction. They can also make use of public transport such as trains, or simply steal a car. Nobody wants to argue with a group of six-footers wearing trench coats and bearing big guns.

Clicking between the agent icons lets you control all of them at once. This is very handy when you've got a lot of city to traverse in order to reach your target. Unfortunately, those agents carrying heavy weapons, or without artificial legs, tend to lag behind so you have to slow the others down and wait for them to catch up.



Right: The only way in and out of this town is by car. You're given one for the mission, so make sure it doesn't get caught in a fire fight. If you do lose it, you could always steal a police car for the return trip.

An enemy agent buys the farm. The other agents are similarly attired is long overcoats and usually have better equipment than your guys. Still, there's more of your agents, and their combined fire is usually enough for any situation.

GREENE KING IPA

Special drugs can be administered to the agents during the course of a mission. There are three kinds which alter his IPA (Intelligence, Perception and Adrenaline) levels. Intelligence dictates how an agent will react to certain situations. If it's boosted he'll back off when the odds seem too great, or advance if he has enough ammo. Perception allows him to spot dangerous situations earlier as well as shoot with more accuracy. Adrenaline is the fun one. When this is boosted, and the others aren't, the agent goes pretty much crazy ape. His reaction times are greatly increased and he'll just blow the hell out of anything on two legs.

Although you have to use the IPA-boosting drugs on the later missions you can't go too overboard. Use the drugs too many times and the agents will become addicts and not be able to perform without them. Strung out agents aren't very effective, but luckily any dibilitating effects are only temporary.

If a battle is going badly there are two options open to you. Clicking both mouse buttons at once boosts all the IPA levels to maximum and instructs your agent to draw his biggest gun. Now you either run or fight. As a last resort hitting Ctrl-D triggers the self-destruct mechanism. This utterly destroys the agent along with everything else on the screen, so it's only worth using if you're extremely desperate.

IT'S THE COZZERS!

The one group of people who really have it tough are the police. Sworn to uphold the law, they won't go near your agents unless they draw a weapon, at which point the police are obliged to shoot. Unfortunately for them they only have puny shotguns, which aren't much good against heavily armoured cyborgs brandishing mini-guns. In this kind of situation the police can be either utterly ignored, or make good targets when you want to try out the latest weapon the R&D bods have come up with.

What you have to keep an eye on is ammunition. For some reason your agents always forget to pack spare clips and there's nothing more embarrassing than running out of bullets in the middle of a street battle. The only thing they can do is bring three or four back up weapons with them. If these come up empty they either have to run for it or grab a gun from the body of a downed agent.

Not every mission involves buckets of gore and insane amounts of violence. Occasionally you're called upon to 'persuade' enemy scientists to join your syndicate. Obviously this isn't a case of asking them nicely, but neither is it a matter of systematically breaking their fingers until they agree to do so. Instead you have a device called a persuadatron. This gadget administers a small dose of chemicals to anyone in close proximity, nullifying their will to resist. After that you've just got to lead them to a collection point without encountering any enemy agents.

The persuadatron is also necessary if you want to boost your army of agents. Your company's funding for the cyborg program has all but dried up and the only way you're going to get any more is by persuading enemy agents to join your team. This isn't as easy as it sounds, though. First you have to recruit 32 civilians, then 16 police officers before you can get your hands on an enemy cyborg. It's wise to get going on this as soon as possible because you only start with eight agents. In my case it was soon reduced to four after my crack squad leapt boldly from their hijacked police car, shot it »

CYBORG JUSTICE

When a new syndicate agent is press-ganged he or she is chosen for the simple fact that they're naturally hard. All the muscles in the world, though, don't mean diddly-squat when they go up against the agents of a rival syndicate. To prepare them for whatever they may encounter you can pay for them to have cybernetic add-ons. Robotic limbs, eyes, organs and even a brain can replace their organic counterparts and imbue your agent with super-human abilities. Naturally, buying such parts puts a serious strain on your budget, so it's best to create two agents with different abilities and chop and change between them, rather than create a squad of Terminators who cost a fortune to build.

Replacing an agent's chest gives him increased protection from bullet wounds, while a synthetic heart increases stamina. New limbs increase strength and speed while a quick brain transplant will give you an agent capable of getting himself out of trouble as quickly as you get him into it.



Left: An enemy car goes up in smoke as your lone agent prepares for an assination attempt.

Below: People who hang around on street corners usually mean trouble. Shooting first and asking the questions later is always te best policy. Just make sure you have enough ammunition.



to pieces and died in the ensuing explosion.

Money is your biggest enemy. Equipping agents with new parts and weapons costs a fortune, as does research into new technology. The best tactic is to search enemy agents after a battle and steal their equipment – the extra cash you'll save can be put towards patching up your men.

RESEARCH AND DEVELOPMENT

One of the most important departments in your syndicate is the R&D rooms. Here's where your scientists beaver away trying to create new mega weapons for your agents. They classify weapons as automatic (which includes shot guns and Uzis), heavy (which feature mini-guns and flamethrowers) and assault (rocket launchers and such-like).

Developing weapons costs time as well as money. The more money you plough into a project the quicker the R&D bods will invent it for you. The only way to speed up the process further is by capturing enemy weapons. These are instantly submitted for analysis and then duplicated for your team.

A technological advantage isn't essential in the the earlier missions as you're only up against shotgun-wielding police and body guards. Before long though you're sent out to eliminate enemy agents.

They also have the advantage of replacement body parts and the backing of well-funded R&D departments. Like your men, they're easily identified by the long trench coats they wear, and the fact that they start shooting the second your guys come into range.

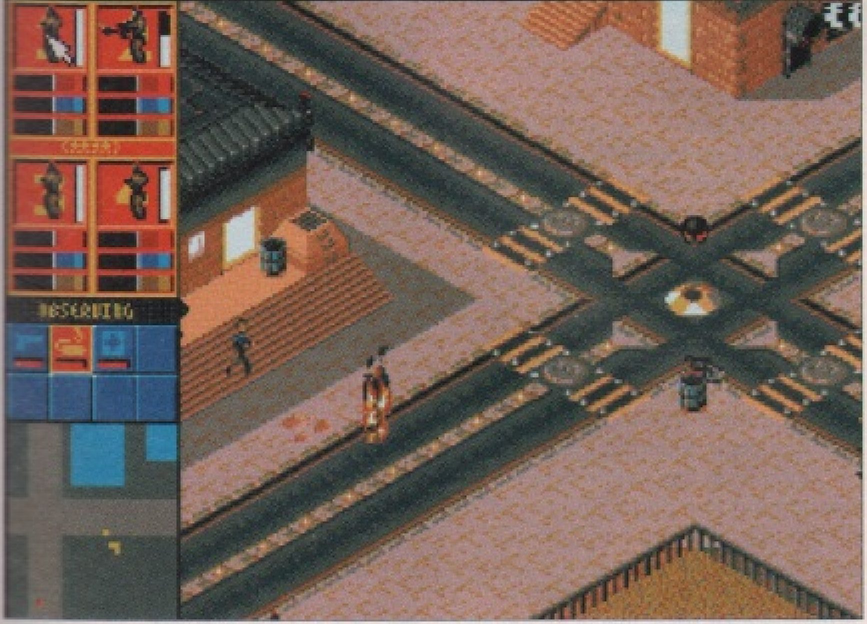
WORLD DOMINATION

There are a total of 50 missions, with each one set in a different part of the world. When you successfully complete one, all the territory belonging to the company that you stitched up becomes yours. Along with the real estate comes 50,000,000 or so people. Naturally you get to tax the pants off of them in order to finance your dodgy deals.

»



The map shows how well enemy syndicates are doing. Yours is represented by a bullfrog icon. You can only attack countries which border one of yours.



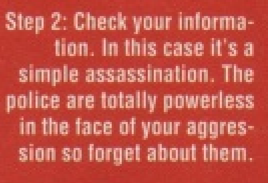
An enemy agent dies in a ball of fire. The flame thrower is a neat weapon, but only effective over short ranges. It is, however, rather good at dealing with vehicles.

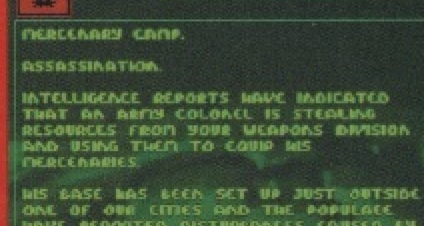
MISSION MAYHEM

There are several stages in a typical Syndicate mission. First you need to prepare your team, plan your strategy, then try to get them in and out without getting shot up too badly. Here's a typical day in the life of your average Cyborg assassin.



Step one: Choose your team for the mission. Some require just one operative, while others demand a mob element to go in tooled up to the hilt.





Step 2: Check your information. In this case it's a simple assassination. The police are totally powerless in the face of your aggression so forget about them.



Step 3: Check the scanner to see which area your target is in. There are two types of approach: either siddle up to your target before opening fire, or go in there with all weapons blazing.

Step 4: After choosing the latter approach the ensuing fire fight finds several unlucky civilians becoming novelty bullet holders.

Step 5: Your target's inside. Station some agents outside then send one in to flush him out.



Step 6: Open up and don't stop shooting until he's dead. Mission accomplished and there's still time for a quick drink before going home.

BIG GUNS

This game may seem extremely over the top to some people, but that fact is big guns sell. Where would Arnold Schwarzenegger be if he never had the chance to utter the words 'Uzi nine millimetre'? Gun culture has also taken the comic world by storm. Back in the eighties we had DR and Quinch and The Punisher whose guns' sizes where only exceeded by their body counts.

Surprisingly, with the millions of dollars raked in by the movies, there hasn't actually been a good game based on the gun cult anti-heroes. The Terminator has had his reputation systematically slaughtered on multiple formats, while Van Damme had his name attached to the dubious *Universal Soldier* game, which had nothing to do with the film and fortunately never actually made it to the Amiga. One reason for the low-key computer appearances of such characters is that companies are a trifle reluctant to reproduce their more horrific aspects in games. With *Syndicate* featuring what is probably the highest civilian and police body count of any action game ever, it could trigger a precedent that leads to a better representation of today's movie heroes in computer games.

Finally there's Judge Dredd, probably the single most violent character in the history of fiction. With a film on its way and probably a whole series of games, let's hope that the producers have the bottle to recreate the skull-cracking violence that is his trademark on our computer screens.



If you really get carried away and push the standard tax rate above 55 per cent the people start revolting. When that happens a rival syndicate can move in and claim that territory, so it pays to give the people the odd break now and then. The ultimate aim is to eliminate all the other syndicates and rule the world from the comfort of your office – something Dan's been trying for years.

Different syndicates have different tactics. Of these the IIA are the hardest. Formed from the old CIA, they only employ the biggest, most brutal agents, give them weapons to match their temperaments and then send them out with a pat on the back and a direct order to enjoy themselves.



To use a vehicle you simply have to click on it, then on the part of the city you want it to go to.



Fail a mission and you're shown your boss thowing a fit.

As such they'll carve a swathe of destruction through civilians in an attempt to get at your men. At the other end of the scale is the Tasmanian Liberation Consortium. They spend most of their time drunk on fizzy lager taking potshots at what they hope are your agents.

CROSSFIRE

This is not a game for nice guys. When a fire fight starts it's tough luck for anyone caught in the cross fire. Civilians are brutally gunned down, or burned and nobody really minds – apart from the civilians, that is. In some missions it's impossible to get to your target without wasting a few bystanders, but you're supposed to be playing a right bastard in the game, so who cares?

While the graphics are small, they're certainly detailed. *Blade Runner*-style TV screens adorn the building, pumping out commercials for soft drinks. The graphics used to depict the individual citizens of the game are small, but very well detailed, especially when they're shot. Pump a civilian full of lead and he or she will fly backwards, landing in a bloody heap.

Blow up a police car and the occupant will leap out, on fire and screaming. While these graphics add immensely to the game's overall look and feel, it's not exactly suitable for younger players.

This is the game I've been waiting for for years. No holds barred, full-out megadeath violence. No morals, no prisoners, just grab the biggest sod-off gun you can find and total a town. The only thing this game could be compared to is a real-time version of *Laser Squad*, but then that's in the loosest sense of the word.



When your objectives have been fulfiled you're shown this natty little animation.

I only have one real criticism. When you walk into a building you can't see what's going on. The only way to keep track of the action is to use the scanner and move the cursor around the general area as it changes shape when it's over another person.

This makes for some extremely frustrating moments, especially when you're attempting to kidnap someone without actually being able to see where they're standing.

A much better system would have been for the roof of the building you're in to disappear – it might not be easy to program, but I suspect that I won't be the only one with this particular whinge.

Apart from that this is one of the best games I've played in years. The sheer size, violence and the huge among of action makes for totally addictive gameplay. Put all other purchases on hold, this is an essential buy. CU

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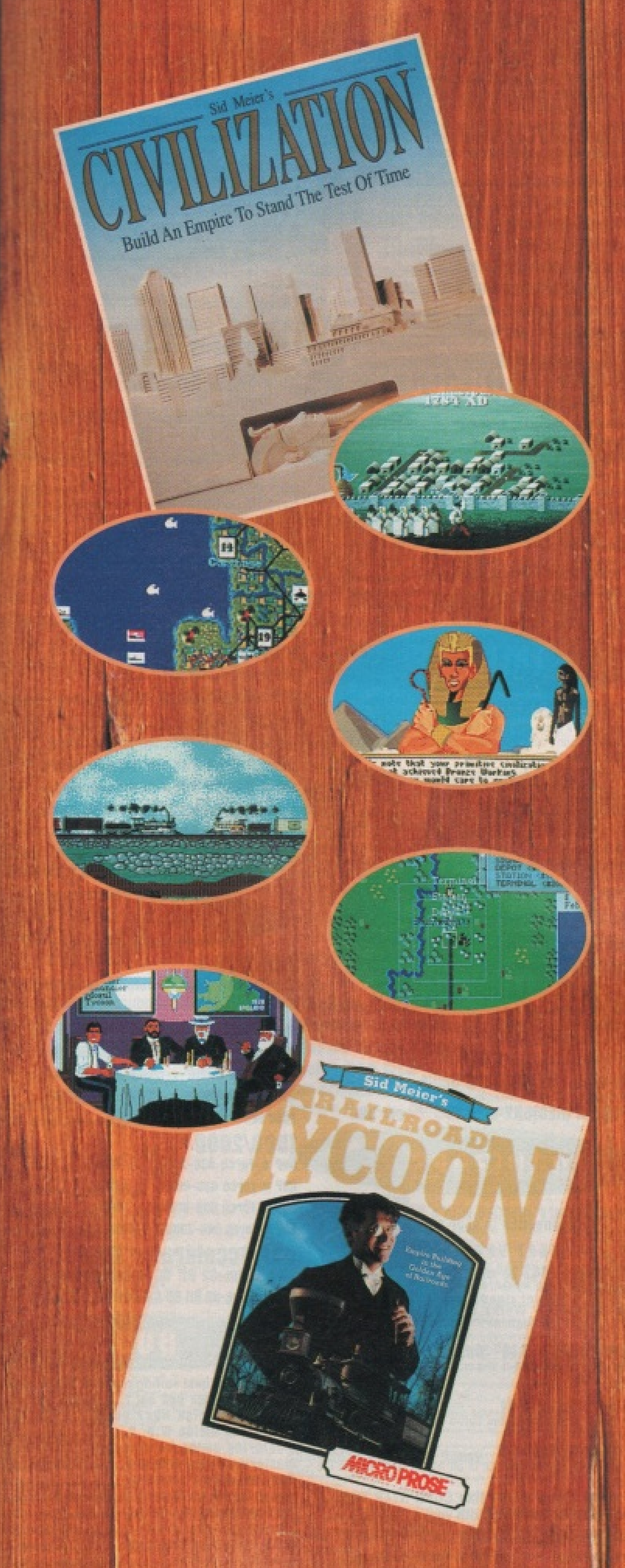
RELEASE DATE:	OUT NOW
GENRE:	STRATEGY/ACTION
TEAM:	BULLFROG
CONTROLS:	MOUSE
NUMBER OF DISKS:	4
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

GRAPHICS	82%
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LASTABILITY	92%
PLAYABILITY	94%

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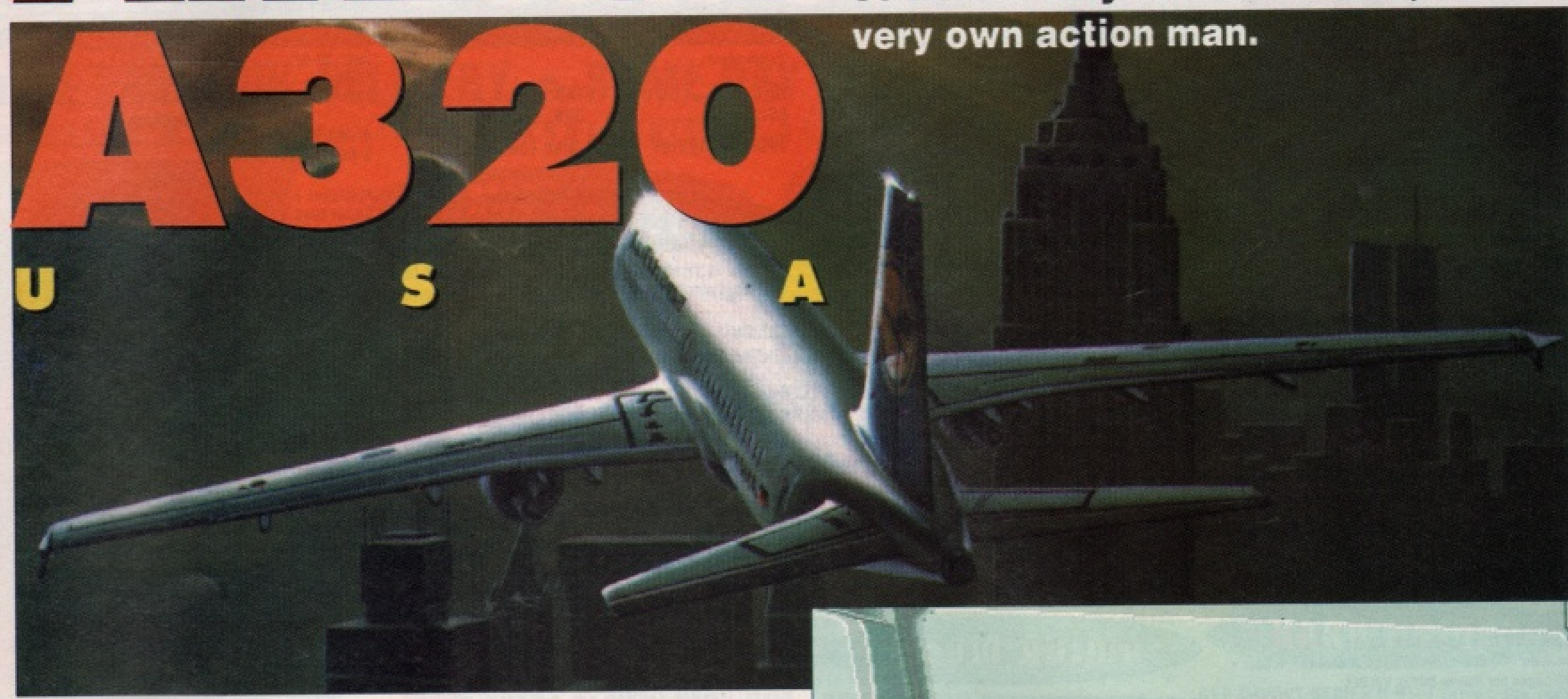
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AIRBUS A320 USA

An airline pilot needs nerves of steel and eagle eyesight. Unfortunately no one at CU Amiga has those qualities, so here's Tony 'Shakes' Dillon, our very own action man.



For years, one of the mainstays of the PC software circuit has been *Microsoft Flight Simulator*. Everyone from business executives down to the lowest home user must have spent at least one happy afternoon circling the Golden Gate bridge. In recent incarnations, you have been able to design your own craft, and an extensive library of scenery disks means that you can now fly over every major city in the world. The theory behind it, and a million copycat programs, is that everyone would like to fly a plane. This is a theory that, in the past five years, has proven true within the confines of the PC world.

On the Amiga, though, it's been a completely different kettle of fish. Owners of Commodore's little marvel are generally a trigger happy lot, and the mundane process of getting a plane in the air and keeping it there in all weather conditions has long been superceded by the idea of getting a plane in the air and then using heavy armaments to blow other planes out of the sky. One exception to this rule, though, is Thalion's *Airbus 320* sim. It seems that, finally, people want more out of their aircraft than just going behind enemy lines. It's quite simple really – most people have, at some point, wanted to fly a plane, and maybe even scale to the heady heights of an airline captain. With that in mind it's surprising that a 'game' like this hasn't been made available before.

HEAVY CARGO

When you pick up the box of *A320*, you know you're going to get value for money. The thing weighs a ton! Open it up, and you'll see why. There are two detailed manuals – one seems to apply to PC only and one gives the co-ordinates of all the airports in the game; there's also a large poster of the box artwork, the game disk and two massively thick pads of over 300 approach charts for the bases in the game. If that doesn't show you how realistic this game is, then I don't know what will.



Taxing onto the runway is probably the most difficult thing you'll be called upon to do.

UP, DIDDLY UP UP

In fact, *Airbus 320* was such a success that Thalion have found it worthy of a sequel. Well, not exactly a sequel, more a continuation. This time, rather than flying around the pitifully small area of the world known as Europe, you can tackle both coasts of the US. Not the ground in between, mind, just the two coastlines. But then, what do you expect for one disk?

Essentially *A320* is a simulation of flying a passenger aircraft between the two airports of your choice. That's it. No missions, no sorties, nothing. You aren't even told which airports to fly between. Just choose the two you'd like to, and away you go. The aim isn't to learn to fly, it's to learn to fly well.

Anyone who has ever flown will tell you that the secret to being a good pilot is good navigation, and navigation is what this is all about. From the hundreds of maps and plans included in the packaging down to the myriad number of ways of telling where you are, learning



Glancing out of your left window you see the famous Los Angeles International Airport.



Your welcoming officer. What a pleasant chap he is. Fly well and he may even shake your hand.

THE LIFE AND TIMES...

Life as an airline pilot isn't all champagne and romance, you know. You just would not believe how long it takes to get your Captain's badge. Here's a quick rundown of what happens:

- Exhaustive mental and physical tests are undertaken.
- On passing, a two-year training period begins, incorporating theory and flight itself.
- Then training begins to become a second officer on a passenger craft.
- After around 12 years, the second officer is promoted through first officer to captain, clocking in over 5000 hours of flight in the meantime.

Just don't ask why they're called the Twenty Minuters.

navigational skills is the only way to get any pleasure out of this game. A complex array of on-board computers, mixed with thousands of small simulated radio beacons, mean that most of the time you'll be flying by your instruments. Generally, there isn't much to look at out of the window.

Flying a plane is a lot more complicated than most games would have you believe. Not this one. There's a warning light and a control for every bit of metal that moves, and most that don't, so you're going to spend a long time just figuring out how to keep this thing in the air. A word of warning. Before trying out the demonstration flight in the Pilot's Manual, read the Amiga key instructions in the Reference Manual. At one point, the instructions tell you to use the '+' and '-' keys to change course. Pressing them turns off both engines – not very useful, especially when it takes them ages to warm up again. There's no military thrust in this game, laddy.

There's also very little in the way of scenery. There are no beaches in California, for a start, and cities are represented by no more than a pale green blob on a flat, dark green 'ground'. If you were wondering how Thalion managed to fit two enormous areas (West Coast USA and North East Coast USA) on a single disk, then wonder no more. Who would have thought that the US was so, well, barren.

Before each flight, you have to fill in a flight record, with details of destination, passengers and cargo.

DOWN, DIDDLY DOWN DOWN

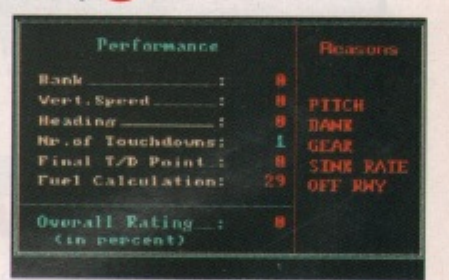
Unlike most flight sims these days, you only have three views from the craft – front, left and right, all from the cockpit. You can have the side views if you're patient, as the polygon view of the outside world updates very slowly indeed, even on the A1200. To show you what I mean, picture changing view from the front to the left. The bitmap overlay of the cockpit changes almost instantly, but the view takes about a third of a second. What this means is that, if you change views quickly enough, you can look all round your plane without the outside view changing at all!

When you actually fly for a living, you're given your own embossed log book, like this one.

This is a true simulation of a modern aircraft, fitted with all mod cons bar the fluffy dice. Like all modern aircraft, it can cover quite large distances, and these distances can take quite a while to cover. A lot of that time is spent flying in a straight line or preset arc, with the actions carried out by the on-board autopilot. After careful searching through the manuals, I finally found a key that accelerated time, but that wasn't enough to stop boredom setting in. Thanks to the miracle of modern technology, there isn't that much for a pilot to do except sit and read the paper – something faithfully recreated in this game. A flight goes something like this: Start on the runway, program the co-ordinates into the Navigation computer and take off. Switch on the autopilot and wait. When the plane comes in to land, switch off the autopilot and apply the brakes. This whole process can take over half an hour, and you're in control for about four minutes.

There lies the real problem with this sim. It's probably all very exciting when you're actually up in the air with 60 people trusting you to keep them up there, but sitting in front of a monitor typing in co-ordinates as a means of flight is not my kind of excitement. Essentially, the only real challenge this product has is that of learning a strenuously overcomplicated navigation system – a far cry from many simulators, where you can just call up a map and travel in a generally northeast direction until you spot the runway.

Microsoft Flight Simulator incorporates all of this, as well as letting you fly smaller, lighter, faster craft and design your own. In developing a game with Lufthansa Airlines, Thalion have limited themselves to a very tedious product indeed. Definitely not worth the £30 they're asking.



This is the sort of report you'll get if you accidentally switch off your engines while trying to change the Autopilot heading.



World War 3 has happened. This is downtown LA after the bomb.

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RELEASE DATE:	JUNE 93
GENRE:	FLIGHT SIM
TEAM:	IN HOUSE
CONTROLS:	M,K,J
NUMBER OF DISKS:	1
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

GRAPHICS	39%
SOUND	46%
LASTABILITY	41%
PLAYABILITY	43%

A perfect simulation of the most tedious element of flying. Yawn.

OVERALL 43%

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CREATURES

THALAMUS EUROPE OUT NOW £25.99



Like many furry thingummys Clyde cannot stand water; in fact he finds it very deadly. Fortunately for him there are abundant leaves available to help him cross the wet patches.

On the face of it, *Creatures* has a lot to recommend it. With the interesting mix of platform puzzle and shoot 'em up, and a few torture scenes thrown in for good measure, I was hoping for a lot. Unfortunately, the pleasures of *Creatures* are only skin deep and you soon begin to tire of the gameplay.

The basic premise is that you are Clyde, a member of a cute alien race that has crash landed on Earth on a remote tropical island. Unfortunately for the Blots (as they are known) the island is also home to a bunch of demons who take, none too kindly, to this invasion of their personal space. So, after a particularly raucous party the demons capture all but one of the Blots and cart them off to their torture chambers. So, as the only free one, it's your job to tootle off and rescue your pals.

Standing between you and them are six levels of baddie-infested island. Luckily for Clyde he drank so much ale the night before that his breath has become a pretty nifty weapon and he can now spit gobbets of flame at the nasties. This can even be powered-up by the usual collect-a-flashing-thing-and-swap-it-later-for-a-bigger-gun routine.



Not all the nasties are land-based. This airborne balloon is hard to kill especially with the down-turning basic spit weapon. Buy a power-up from the kind witch and it's a breeze.

You have to pick your route very carefully so as to collect the requisite amount of pick-ups. As the screen only scrolls left to right once a section has gone off screen it's lost forever. This, and the pixel perfect leaps required, makes *Creatures* fairly frustrating in a put-it-away-never-to-play-again kind of way.

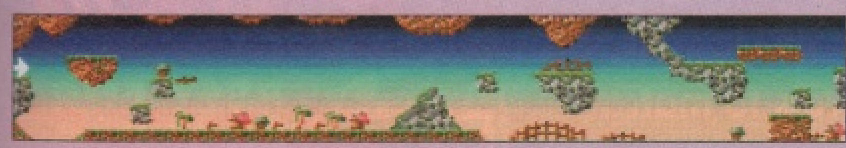
If *Creatures* had been a cheap release I would recommend its purchase. However, for nearly £26 you could buy a much better puzzler than this. Wait a few months and it'll be on budget.

Jon Sloan

58%



The nasties range in size with the bigger ones requiring more hits before they explode. If you can, stay at a distance and blast away.



Before you start each level you're given an overview of the layout to help you plan a route across. This is a necessity given the fact that the screens scroll left to right only.

BODY BLOWS

ENHANCED VERSION

TEAM 17 OUT NOW £2.99

CU AMIGA SUPER STAR

Body Blows is without a doubt one of the star performers so far this year, knocking most other games for six. As if it wasn't good enough already, Team 17 have produced and upgrade disk to further extend its packed list of features.

This is to *Body Blows* what the Turbo Edition is to *Streetfighter 2*.



In an amazing feat of agility the ninja leapt high in the air only to find that he'd forgotten his sword.

Speed is the major factor in the enhanced game. It's much faster than the original, running at almost twice the speed of the A600 version. The immense difference this makes to the challenge is almost reason enough to buy the disk, but it doesn't stop there.

You can now control all 10 characters in one player mode, which is excellent fun. And just in case you're having difficulty with the increased speed you're also given extra credits to extend the playing time. The strengths of the players have also been altered so some aren't as strong as they used to be, while others are a lot tougher. Finally there have been a few minor cosmetic changes, the most notable of which is the addition of shadows under the fighters.

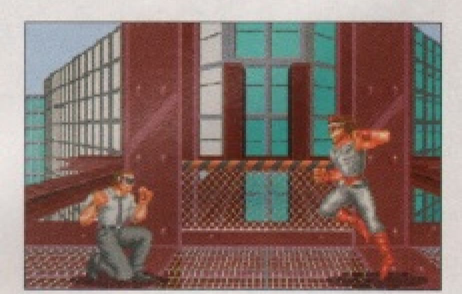
All you're required to do to take advantage of this offer is send back your boot disk with a cheque for £2.99, which is a paltry sum for the extra features on offer.

This is an exceptional offer and let's hope that more software houses follow suit. Not only does it nobble the pirates, it also extends the longevity of the game. If you have *Body Blows* and like it, you'd be out of your tree to miss this offer.

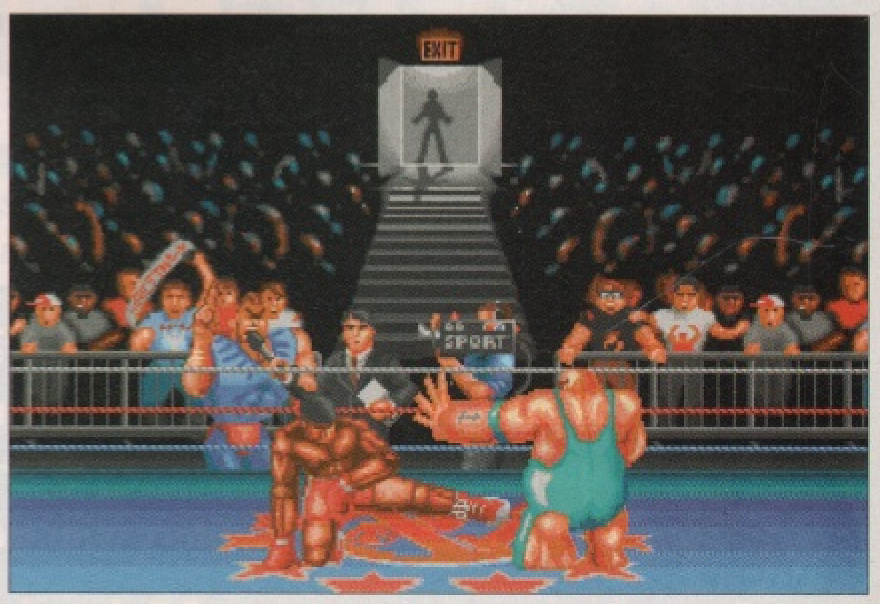
The address to send your disk to is: Body Blows Upgrade Offer, Team 17, Marwood House, Garden Street, Wakefield, West Yorkshire, WF1 1DX.

Mark Patterson

93%



'I'd heard that business was tough, but boy I never expected this.'



Never mind the fight, what I'd really like to know is who's that geezer silhouetted in the doorway over the ring? Personally, I'd give odds on it being Chris Eubank waiting for the next fight.



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SUPER CAULDRON

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IN THE BIN

This was one of my favourite games a good few years back. *Cauldron* featured a small orange pumpkin bouncing his way around a bat-infested landscape avoiding witches like the plague. *Super Cauldron* turned the tables and had a witch avoiding pumpkins, set out against a slightly more extravagant plot.

Essentially, an evil wizard has set up residence in a haunted castle, and from here is terrorising the entire population of the planet. Only you, as the good witch Zmira, can save the day. Mind you, after playing the first level, I doubt you'll be all that bothered.

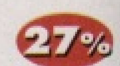
The game itself is a fairly standard scrolling platform game, with portals set into the floor letting you travel freely between a number of parallel levels. The major difference between this and, say, *Woody's World* is that this is complete and utter pap. To begin with, you're armed with a pathetic little stone, which is almost impossible to aim and has very little effect on the things you shoot. For example, early on in the game you meet a fire breathing snake, which takes no less than 30 full-power hits to kill.

This would be fine if it were an end of level guardian, but as it appears at the start of the level, and is quickly followed by another two...it's just tedious to have to keep shooting at the same character. Add that to the fact that there are a few invincible characters too, and you can never quite be sure whether or not the thing you've spent the last two minutes shooting at is ever going to die.

Anyone who owned a C64 in the mid-eighties will feel their pulse quicken when they read that *Super Cauldron* has been released on the Amiga. To those people I have to say, gently and sympathetically, once they have sat down in a chair with a nice cup of tea, that it is a fairly pathetic conversion. Where the former was dark and scary, the latter is fun and jolly.

Where the original game was addictive and playable, this 'new, improved' version seems dated and infinitely dull and tedious. Titus, you've let us down.

John Mather



27%



There are loads of nice visual effects to be found in the game. Kill this troll and he turns into a frog!

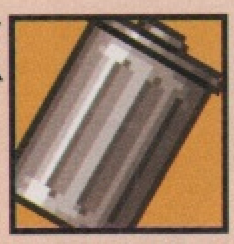
The skulls take over 20 hits before finally smashing. Not a very exciting sub-level.



The small square with a picture of a broomstick is actually a special magical broomstick which only exists for a short time.

FIREHAWK

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IN THE BIN

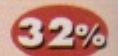
Originally this was going to get an average to poor review in the VFM section. It's a below standard shoot 'em up that is tired and dated in both presentation and gameplay. Still, it did have the saving grace of being cheap. Only it isn't. A quick call to the Codemasters office confirmed my fears. *Firehawk* is as overpriced as they come.

The game casts you as a gunship pilot with a limp, hired by the government to get in, complete a series of tasks and get out again. Missions include such inspired stuff as rescuing hostages and collecting paratroopers. All of this is done using a rotating helicopter flying over a 360° scrolling battlefield with few weapons, limited fuel and a poor defensive shield. All in all, it would be a poor man's *Desert Strike*, were it a lot cheaper.

The bulk of the game involves flying about the puny maps (four screens by four screens) shooting anything that moves and searching for the hostages, whom you'll probably find in your first five second scan of the map. Move the helicopter over them, and lines will begin closing in around you to form a box. This is to tell you that the hostage is getting ready to board. As soon as the lines join, you can move into the really dire part of the game.

Cast your minds back to a game called *Hypersports*. In it was a clay pigeon shooting event which featured two gunsights. These only moved up and down and automatically tracked the vertical position of the nearest target. You pressed the joystick left or right to fire the appropriate gun. It was a poor system, and one only acceptable because it was released in 1984. Nine years later it's a crime to use it again. What a terrible game.

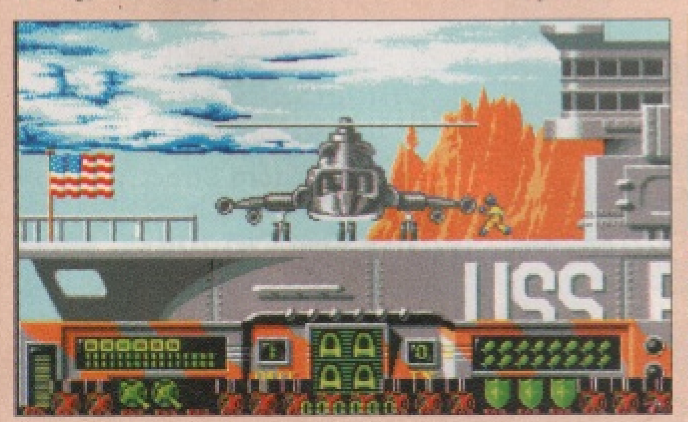
John Mather



32%



Above: There goes the bridge! The scrolling battlefield is only redeemed by the fact that it scrolls slowly.
Below: The first shoot 'em up that actually tells you which controls to use in the middle of battle.



Hoppalong races for his craft. For some reason he seems completely incapable of using both legs when running!



SINK OR SWIM

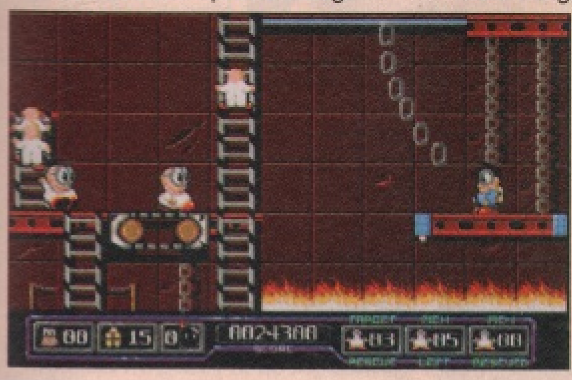
ZEPPELIN
OUT NOW £19.99

Like a bad egg, *Lemmings*-style games keep repeating on us. This latest one takes place aboard a sinking cruise ship, the SS Diablo.

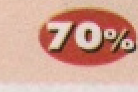
The Lemmings in this case are Dim Passengers. They're blinded by panic and will rush head-long into any danger, be it of the fiery or watery kind. They'll just walk in one direction, climbing up ladders and stumbling into crates until you clear a path for them. If they end up in the drink they'll die within a few minutes. You do have two options though.

The first is to rush around and find some jet packs, which automatically transport them off the level, or use your emergency raft. This can be employed only once per stage, and although it saves the passengers, you still have to guide them through the rest of the level.

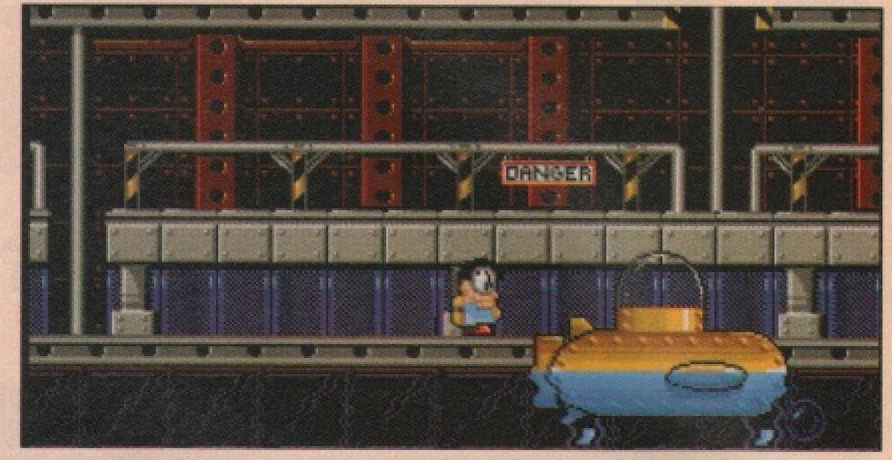
Sink or Swim is one of the better *Lemmings* clones, but is too short on features and polish to make it a serious contender for the crown. The graphics are basic, and even though they fit this kind of game, more could have been done with them. A few more things to do wouldn't have gone amiss either – as it stands you can only really flick switches, move objects out of the way and blow the occasional thing up. Not bad if you like this sort of thing, but personally I'd hold on to my cash.



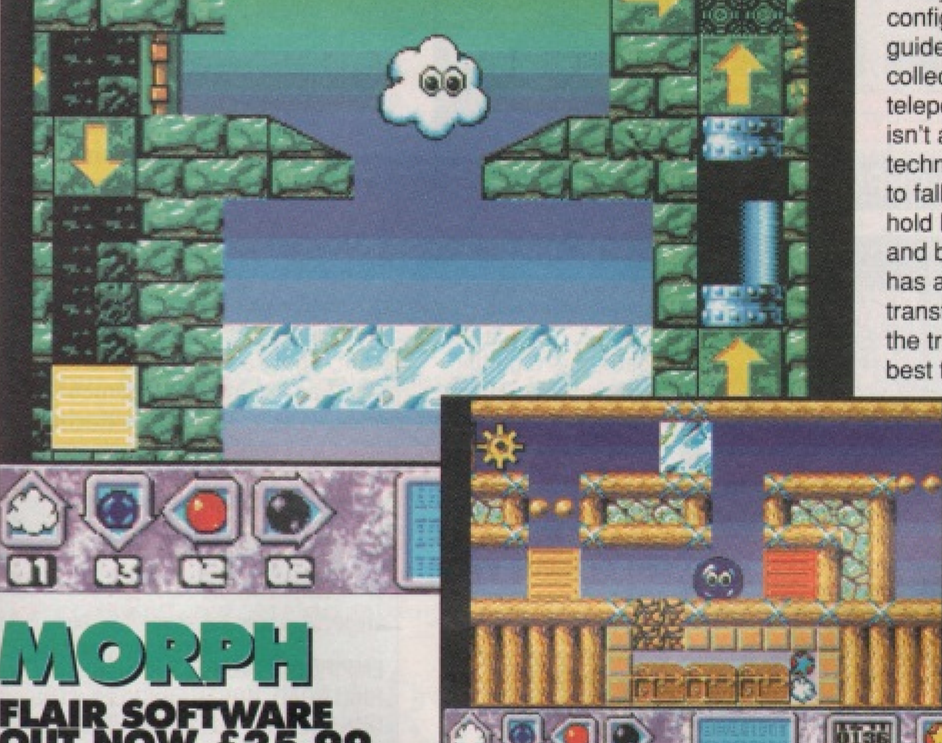
Mark Patterson

70%







MORPH

FLAIR SOFTWARE
OUT NOW £25.99

Since the advent of *Lemmings*, puzzle game designers haven't been able to come up with anything nearly as groundbreaking. Millennium's latest gives you control of a bizzare, and almost original character, Morph.

Morph is an unfortunate boy who was caught up in a bizarre teleporter accident which turned him into a cloud of ionised gas. Undeterred by his new form, he found he had the ability to transform into four different forms: gas, solid, liquid and something stretchy which doesn't quite make it onto the periodic table.

Using this skill, Morph has to track down the missing pieces of the teleporter which was blown to bits by a fluke lightening strike just before Morph could teleport back to normal. On hand with advice is his pal, and the machine's inventor, Professor Krakenpot.

By utilising his various configurations you have to guide him through four areas collecting cogs to rebuild the teleporter (which, presumably isn't at the cutting edge of technology) while trying not to fall foul of various household horrors such as fans and broken glass. Morph only has a limited number of transformations per level, so the trick is to work out the best time to transform.

Many levels can be completed without using all the transformations, but as the game progresses you find yourself having to track down bonus ones in order to reach the end. You can find a map of the current level, but it doesn't show you many of the hazards or bonuses, and so isn't much use.

Morph falls somewhere between a puzzle and platform game, and because of the exploration-based gameplay, persistence rather than skill is required to play. One of its biggest failings is that it relies on ignorance regarding new levels to provide the difficulty. Starting a stage is like walking into a dark room – you don't know where the hazards are and have to find your way through by trial and error. The generous amounts of extra lives are some compensation for those unavoidably lost during exploration, but it doesn't make up for this glaring hole in the gameplay, which makes the whole thing seem rather flat.

Mark Patterson

54%

1200 SPECIAL

The version reviewed here is for the A500 and A600. Millennium are currently working on a special enhanced A1200 version which will be released in September. It will feature additional levels and the graphics drawn in using the A1200's utterly fabulous 256 colour mode, so it looks like being an improvement over the version reviewed here.



SHAPE SHIFTING

The various forms that Morph can adopt all endow him with particular abilities, but they also leave him open to certain pitfalls.

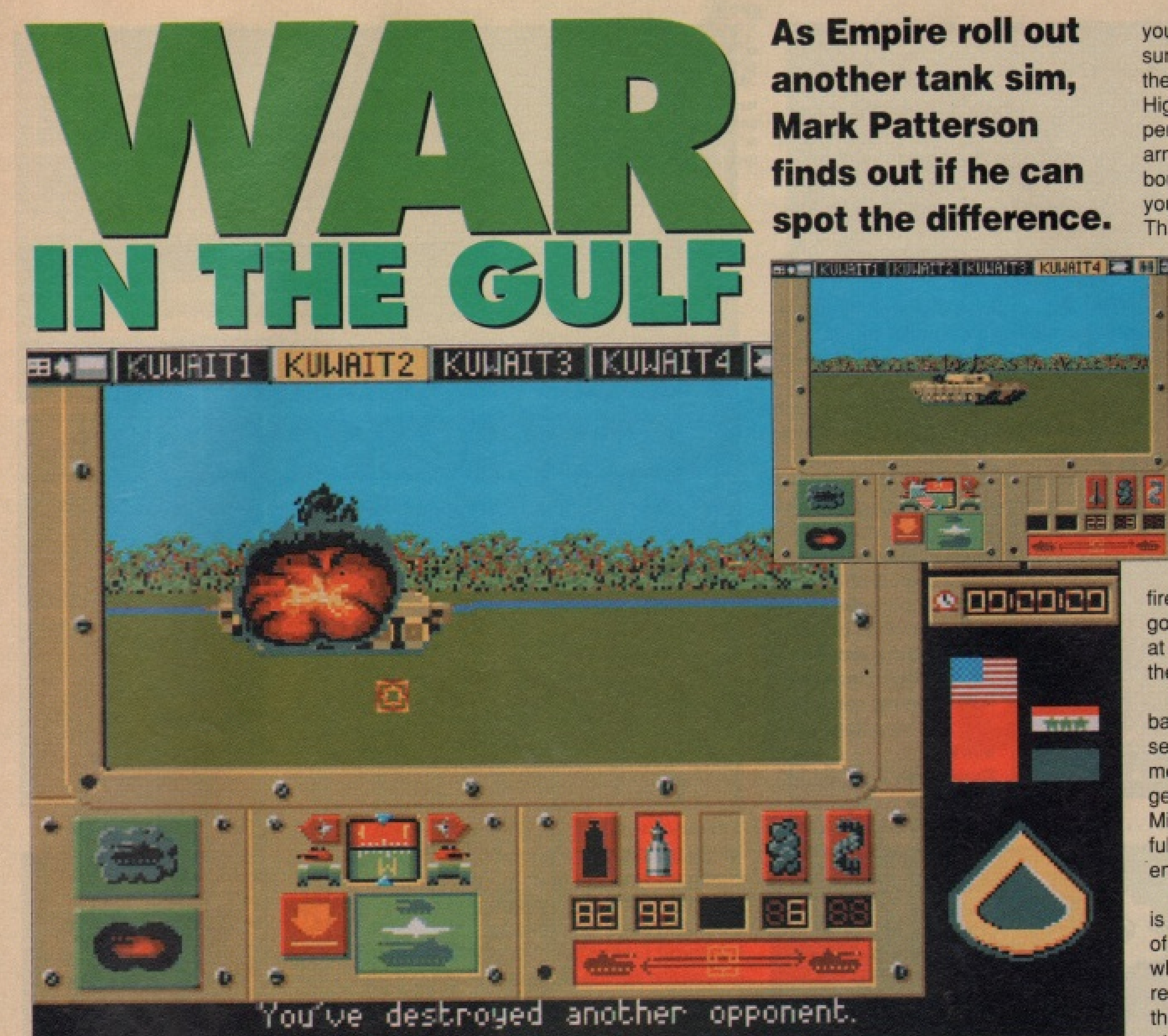
***Gas*: In his gaseous form Morph can't prevent himself floating to the top of the screen. However he can pass through grills and small holes. Keeping away from extraction fans is imperative and coming into contact with water reverts him to flexible form.**

***Liquid*: As a liquid Morph can seep through grills and put out fires. But in this state he's got to watch out for drains and other liquids.**

***Flexible*: This is Morph's most useful state, allowing him to bounce over hazards and up stairs. However, he's not puncture proof, and must watch out for sharp objects such as metal corners and broken glass.**

***Solid*: With its mean expression, the cannonball is Morph's most formidable form. He's capable of smashing through some walls and is impervious to even the pointiest hazard. However, he'll sink in any liquid he encounters and is so heavy that some flimsy surfaces can't support him.**

WAR IN THE GULF



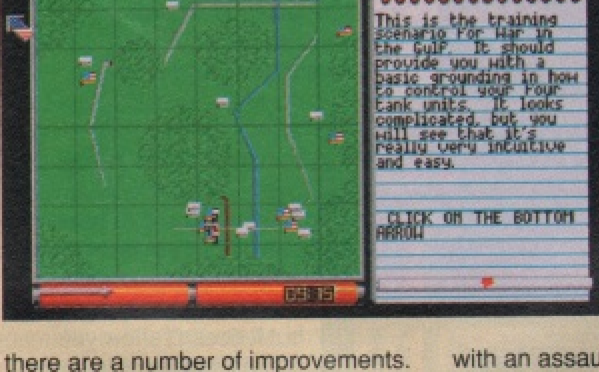
As Empire roll out another tank sim, Mark Patterson finds out if he can spot the difference.

Some people attract bad luck like a magnet. Others draw insects by the hundred. For some reason I just can't seem to escape Empire's tank simulations.

My first thought on seeing the shots on the back of the box was 'bloody hell, they've got a cheek' – the game looks like *Team Yankee* painted yellow. If I was the average punter in the shop staring at the game packaging I would have returned it to the shelf without further hesitation. Fortunately for Empire I'm not the average punter, so putting on my reviewer's cap I started playing the game and was pleasantly surprised.

IMPROVEMENTS

It may look the same as Empire's previous games, *Pacific Islands* and *Team Yankee*, it might play the same and use the same control system, but there are a number of improvements. First of all you're required to attack more buildings and installations than before. This gives you plenty of scope for wanton destruction although you're required to buy ammunition out of the unit's budget so you can't afford to get too trigger happy.



Above: **Another Iraqi tank bites the dust.**
Left: **Study your orders before the campaign.**

The hard part about this, and the other two games, is that you're in charge of four platoons at once while the whole game carries on in real time. You must keep a constant watch on where each group is and how close they're getting to the enemy. Things really start to become confusing on the latter missions when you have one platoon trailing an enemy convoy to their base, while you've got another two dealing with an assault elsewhere with your fourth unit preparing to ambush a tank column.



Left: **Use the map screen to keep an eye on the action.**

When you complete a mission you have to sit back and assess the damage. Firstly you only have a limited budget, which increases with the amount of enemy tanks you destroy. Damaged tanks can be repaired for only a few dollars, while a replacement will soak up nearly all your cash. Ammunition also has to be bought, and after a few missions you'll probably find yourself having to send out tanks which are almost unarmed.

MODERN WARFARE

Because this is the 90s, technology plays an important role on the battlefield. Instead of just blasting a shell from your tank towards the target, you now have laser sights to make sure your aim is good. You also need the right weapon for the right job. High explosive shells are fine against personnel carriers and other lightly armoured vehicles, but they just bounce off a tank's armour. Instead you need to use a SABOT rocket. This blasts a depleted uranium rod through the tank's armour and the resulting shrapnel shreds the crew.

The ultimate in tank weapons is the TOW missile. Your vehicles have to be stationary to launch them, but you're almost guaranteed a hit every time. Obviously stopping your tank in order to fire this weapon gives your enemy a golden opportunity to take pot-shots at you, so it's usually best to stick to the conventional weapons.

You also have access to a large battery of artillery. Strikes have to be set up before your mission, which means you have to be careful not to get caught up in your own barrage. Mines can also be laid, which is useful if you're expecting to be chased by enemy forces.

A comprehensive training mission is included to break you into the world of tank combat – or at least that's what it attempts to do. Instead it requires lots of cross-referencing with the manual and frustrating attempts at tracking down key buildings.

They say you can't have too much of a good thing. I, for one, have. I don't really want to see another game in this series, unless it's radically different. That said, if you haven't played any of the other games in this series, *War In The Gulf* is the best of the lot and well worth checking out. CU

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RELEASE DATE:	OUT NOW
GENRE:	SIMULATION
TEAM:	IN-HOUSE
CONTROLS:	MOUSE
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	0.5Mb

GRAPHICS	74%
SOUND	78%
LASTABILITY	85%
PLAYABILITY	82%

"More of the same with a few new surprises."

OVERALL 83%

DUNE II

He who controls the Spice... Controls the Universe. We thought that this sounded like a job for Tony Gill, so we gave him a bucket and spade and sent him out digging for worms in the sands of Dune!

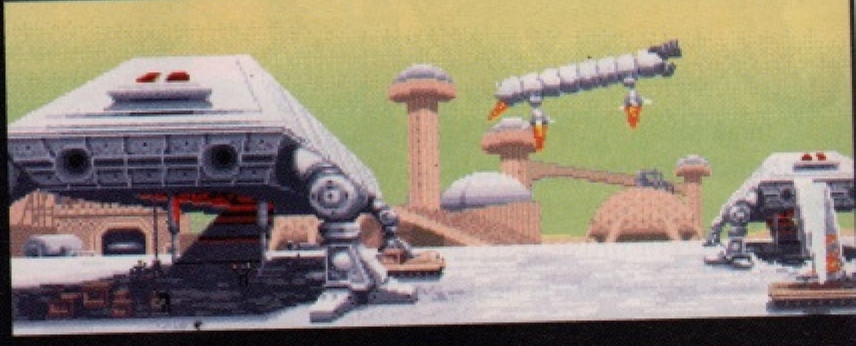


The Emperor is up to his neck in debt to the moneylenders, and his only way out is to make some money fast. A contract for the exclusive mining rights on the planet Dune is on offer to whoever can come up with the most spice.

If you ever thought that war-games were boring, be prepared to change your mind. Beneath an alien sun on a far-off planet, the elite troops of three rival houses are preparing to hurl themselves against each other in deadly combat. You may pick which of the houses you wish to command, and then you must use your wits to build your defences, manoeuvre your troops and plan your overall victory.

Once the enemy finds your base he will keep you under constant attack, and you'll find that events will accelerate and hours will pass in a flash as you frantically juggle with all of the options available to you.

The desert world of Dune first appeared in the book of the same name, written by Frank Herbert. The book became a beloved classic for all sci-fi fans as it conjured up a world which was both unbelievably fantastic and yet convincingly possible. It was a world of unending sand dunes with no trace of water. Here the fearless



The Harkonnen invasion force arrive on the desert world. They're the most war-like of the three houses.

inhabitants harvested the spice and wore airtight clothes which trapped their sweat and recycled each precious drop. These Fremen tribesmen knew how to survive on this blistering ball of heat and dust, and to prove their manhood they would take part in the sport which men marvelled at throughout the galaxy.

Moving out from the safety of the rocky outcrops they would stand in the open dunes and thump the ground, deliberately attracting the giant worms which moved beneath the sand as effortlessly as sharks in the sea, causing them to rise up out of the depths beneath them. Then with hooks tied to ropes, they would ride these horrors across the desert, using their own strength and their makeshift reins to prevent the terrifying mounts plunging back into the depths.

The worms of Dune have a mouth whose teeth-ringed maw is capable of swallowing men, tanks and aircraft. From the moment man or machine moves onto the surface of the sand, the resultant vibrations act as a dinner gong to any passing monster. The prize that the Spice gatherers seek is great, but the danger is equally high.



ROOTS

Dune II has its roots in games such as *Powermonger*, *Empire* and *SimCity*. As with all empire building games, your task is to use the income from your money making enterprises (in this case spice gathering) to fund the creation of new weaponry which can be used to attack your rivals and hence increase your sphere of influence. This is a well-worn and popular game genre, but it tends to be played in a sedate way and involve lots of tables containing endless facts. There have been some attempts to inject some passion and excitement into the basic idea and they have had their successes (e.g. *Mega-Lo-Mania*), but this is a serious attempt to turn up the excitement control to fever pitch. The game controls are simple to understand, and the first few levels of the game provide an easy introduction which anyone should be able to complete without giving more than a glance at the slim game manual.



Your main screen display gives you a bird's-eye view of your outpost and of the battlefield. In the bottom right corner your radar screen gives an early warning of advancing enemy troops – providing, of course, that you have built a radar station. To the left of your screen your large blue harvester is all set to go lumbering out to the spice deposits and scoop up a few hundred credits for your bank account.

The beauty of this game is that there is no one strategy which must be followed to conquer the opposition. You are free to replay levels continually until you devise a strategy which works. You could choose to scout the surrounding desert and find the enemy camp before they can build up their forces, then risk an early strike and hope to overwhelm him; or you could hold back, bide your time, and wait until you have built up enough heavy weapons before you risk poking your nose out behind your fortifications. Whatever you do, you can be sure that the computer-controlled opposition will give you a real run for your money. Once you wake the sleeping tiger he'll harry you constantly.

The game has a similar objective to that of *Powermonger*, but there the comparison stops. *Powermonger* may have looked good, but it was an awkward and ultimately frustrating game. *Dune II* has the looks and the depths you'll want, but the gameplay and the controls are as smooth as silk. The interface has been carefully designed to be easily understood and used intuitively.

SEEKING A FIRM FOUNDATION

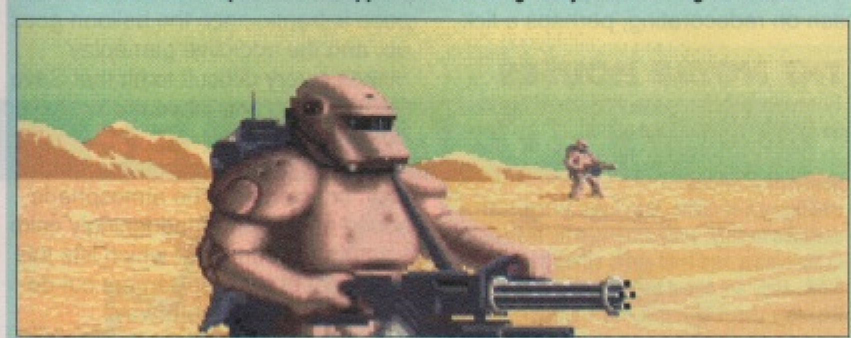
A further complication to your plans for world domination is that you can only build on a firm foundation. The sands of *Dune* are criss-crossed by rocky outcrops and it's on those that you must lay the concrete platforms and erect your factories and Spice Refineries. Simple rules let you know where you can and cannot build, but even these can be ignored – at a price. A fool builds his house upon the sands, and you may join him if you feel you must, however you'll suffer a constant drain on your money as you pay to repair the foundations. You may only expand your base by building cheek by jowl with existing buildings, however that means your troops have a long treck back from the war zone for repairs »

DUNE ON THE BIG SCREEN

It fell to the cult director David Lynch to attempt the seemingly impossible task of bringing *Dune* to the big screen, and it is generally agreed by the book's devotees that he failed. He had Agent Cooper from the *Twin Peaks* series play the part of the hero, Paul Atreides. And who could forget, (or forgive!) his decision to cast the pop star Sting as the villain? (Ah well, not every story can have a happy ending). However, that ill-fated attempt is not quite the end of the story.

When George Lucas had to shipwreck the robot comedy duo – R2D2 and C3PO – he picked a desert planet which had more than a passing resemblance to Frank Herbert's creation. Watch the movie again and you'll see the giant skeletal remains of what can only be a sand worm amidst the dunes. When we first meet Han Solo he is heard boasting that he had served his time on the Spice Run. Compare the description of Emperor's Sardaukar Troopers with the similarly heavily armoured troopers under the command of Darth Vader.

Our heroes returned to the same desert world in the Return of the Jedi, where they almost became lunch for a sand worm which surfaced below their floating 'ship of the desert'. More than one poor soul disappears down that ghastly mouth during the action.

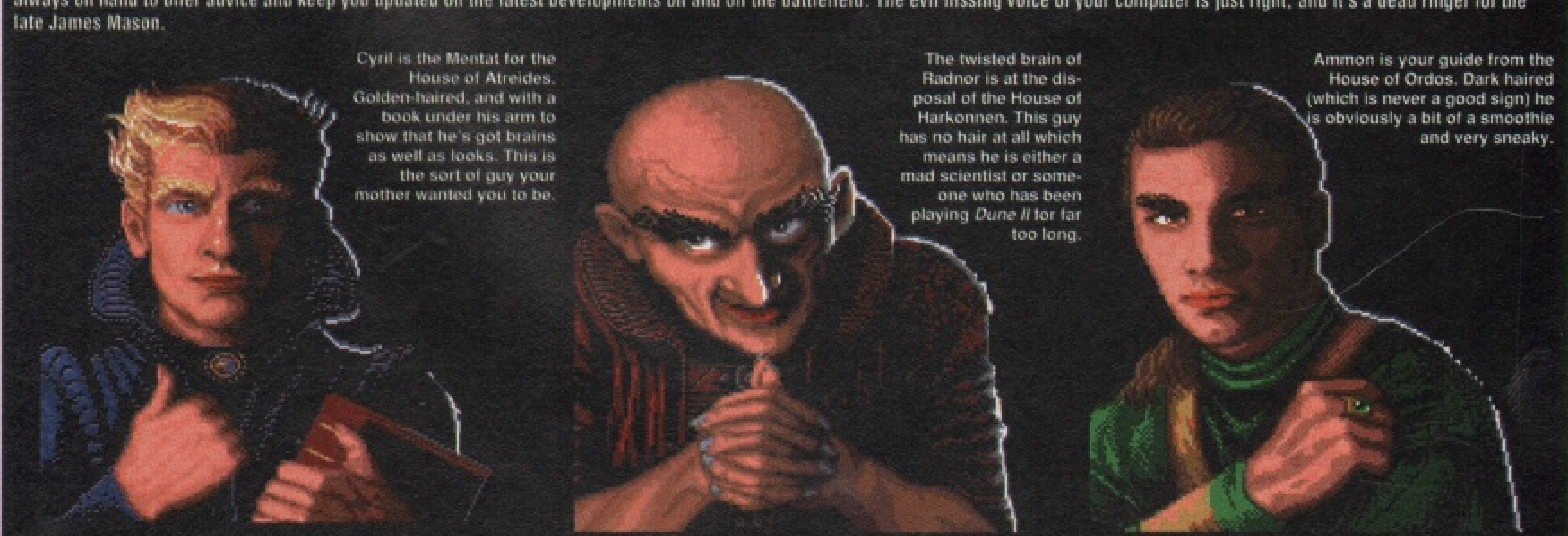




The heavily armoured Stormtroopers of the Dune Expedition could have stepped straight out of Darth Vader's Death Star. George Lucas picked quite a few brains when he set about assembling the cast for his *Star Wars* epic.

A MENTAT IN NEED IS A FRIEND INDEED

A veritable Napoleon you may be, but you can't be everywhere at once. Luckily, whichever house you choose to command, each has its own fairy godmother, known as a Mentat, who is always on hand to offer advice and keep you updated on the latest developments on and off the battlefield. The evil hissing voice of your computer is just right, and it's a dead ringer for the late James Mason.



Cyril is the Mentat for the House of Atreides. Golden-haired, and with a book under his arm to show that he's got brains as well as looks. This is the sort of guy your mother wanted you to be.

The twisted brain of Radnor is at the disposal of the House of Harkonnen. This guy has no hair at all which means he is either a mad scientist or someone who has been playing *Dune II* for far too long.

Ammon is your guide from the House of Ordos. Dark haired (which is never a good sign) he is obviously a bit of a smoothie and very sneaky.

BASIC BUILDING GUIDE

Once you have built the basic infra-structure you can turn your attention to constructing the many assembly plants which can churn out all of the space-age technology you could wish for. Build yourself a spaceport and you can start ordering high-tech airborne units directly from the Merchant's Guild.



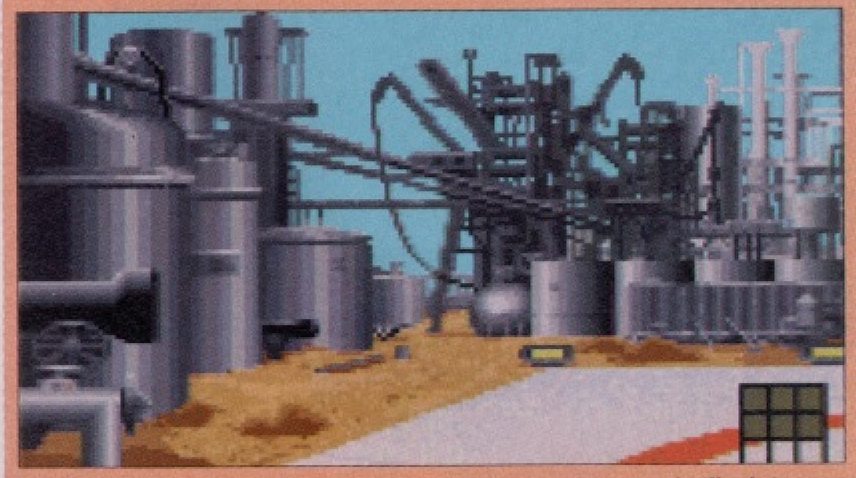
Light Vehicle Factory – Once you've got the money coming in it's time to build one of these. This quickly assembled unit can churn out fast scout trikes and light armoured cars.



Wind Traps – These giant turbines provide the power and water to your installations. You must build one of these to give you the energy to fuel your next units.



Infantry Barracks – Here you can create the ground troops who are needed to occupy enemy positions and use their resources.



Spice Refinery – This is the source of your income. Keep your harvester shuttling between the spice fields and your refinery to keep the space credits pouring in.



» and reinforcements. What you need is a mobile construction site which you can drive across the desert, (watch out for Mr. Wiggly!) and set up shop within shelling distance of the enemy. Once you have a forward post in operation you can hopefully churn out heavy units faster than he can replace them.

BUILD IT, OR TAKE IT?

You may decide you joined the expedition to be a soldier and not a construction engineer. Why spend your time, and valuable credits, building a spaceport when there is one for the taking just over the next hill? If you use your forces to pound the opposition into a position where they are on their knees, your troops simply have to move onto the occupying area for it to become your own. Of course you will have to spend a bit of cash on redecorating, perhaps a lick of paint and some new curtains, but after all you would expect some outlay after your Devastator tanks have spent an hour lobbing 190mm shells through the windows. Smash and grab tactics work well unless you've managed to persuade Fremen tribesmen to act as mercenaries for you. These tribesmen are fanatical fighters and will serve you well in any battle, but they do have the teeny-weeny problem that once they get their teeth into something, they wont stop while one stone is still standing on top of another.

This is the game that old-time war-gamers would have died for. It has real-time action with intelligent troops.

Place your forces strategically, and then leave them to do the business while you are occupied in another corner of the battlefield. The pace is frantic once the balloon goes up, and the addictive gameplay makes it very difficult to hit that Save Game option and leave the battlefield until another day.

It's the deceptively simple game play, coupled with the atmospheric sound effects and maddeningly calm voice of the computer which lifts this game out of the war-gamers cul-de-sac and onto the motorway. CU

THE NOBLE HOUSES

Three ancient Houses have entered the battle for the control of the planet.

House of Atreides
Intelligent and noble, they have an unusual devotion to duty. They are noted for their skills in diplomacy and tend not to strike the first blow. They are about to discover that turning the other cheek only gets you a broken jaw.

House of Ordos
Noted for their trading and merchandising skills, the ruling princes of this clan have little conscience and gain their power through subtle and underhand moves involving sabotage and terrorism. Only their great wealth has protected their reputation being smeared by their long history of trickery and deception.

House of Harkonnen
The terrible Harkonnen House is a dynasty of cruel people, led by ruthless princes. Promotion is not awarded in the Harkonnen society, it is taken. If a subordinate kills his superior, then he assumes that position and is respected for his action. This House does not appear to be attempting to win the contract by simply harvesting more spice than the others, they have decided to annihilate the opposition.

For each of the three houses you select, there are 10 different campaigns, giving a total of 30 war games. Each house has a preference for certain weaponry and you'll usually have a sprinkling of their favourite armoury to get you started. The skill levels are graduated to lead you gently into the gameplay, so you won't have to fight the game controls as well as the enemy tanks.

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RELEASE DATE:	MID JULY
GENRE:	WAR GAME
TEAM:	WESTWOOD STUDIOS
CONTROLS:	M/K
NUMBER OF DISKS:	4
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1.5Mb

GRAPHICS	80%
SOUND	75%
LASTABILITY	83%
PLAYABILITY	88%

'This is the game that old-time, war-gamers would have died for.'

OVERALL 85%

ROBOCOD •A1200 VERSION•

MILLENNIUM OUT NOW £29.99

With A1200 owners still starved for software which makes use of their machine's capabilities, it's good to see companies such as Millennium producing A1200 enhanced versions of their back catalogue.

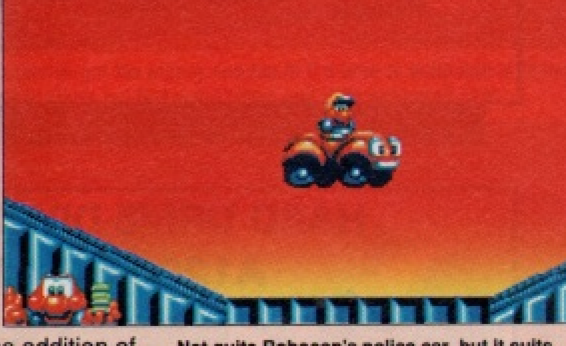
They've taken their aquatic smash-hit *Robocod* and revamped many of its aspects for a standalone 1200 version. It first appeared on the Amiga over 18 months ago and was an instant hit thanks to its colourful graphics and masses of levels. When the Megadrive version appeared shortly afterwards it too received rave reviews.

The biggest single improvement on this version of the game is the addition of five new levels. Each level is broken down into several smaller ones, so you're actually getting about 18 stages.

Many of the existing levels have undergone changes and now contain 256 colour backdrops. Some of the sound effects have also been updated, although these are few and far between and easily passed over.

As before there are several thousand screens to conquer, nearly all of which are populated with some of the strangest characters yet seen on the Amiga.

One of the best features is the variations in the levels. You might be required to practice precision jumping on one, then at the next junction you find yourself hairing down a corridor at a speed that would make Sonic pack up and go home.



Not quite Robocop's police car, but it suits the game.

There are just so many graphical touches and hidden levels that you can play right through the game several times without seeing them all, so there's always something to go back for.

There aren't any radical changes in terms of speed and gameplay in this version, so if you've played the game to death on the Megadrive or A500 you may be disappointed.

On the other hand, if you've never played *Robocod* you're missing out on one of the finest platform games ever.

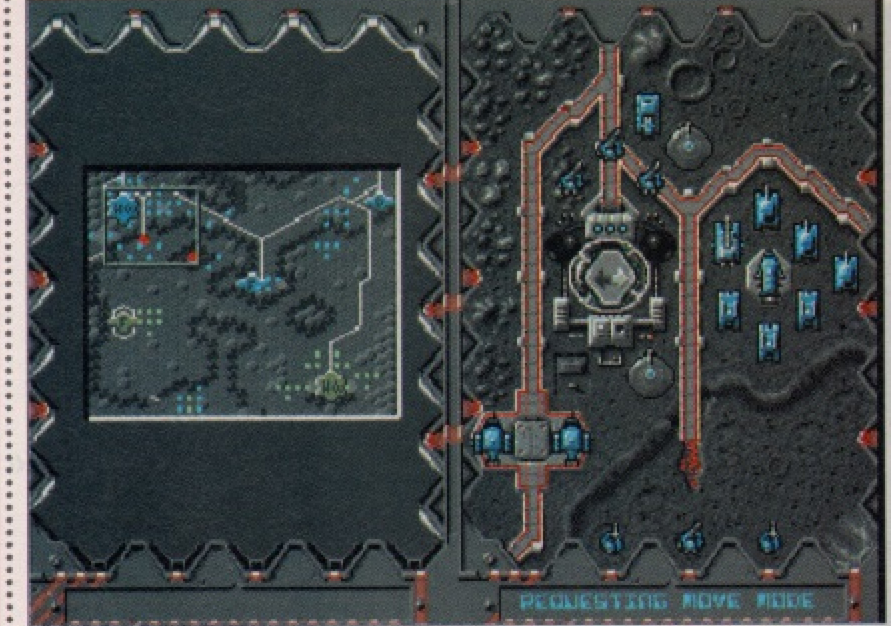
256 colour copper bar effects now feature on many of the original levels.

Mark Patterson





If the car isn't to your liking you could try the bath tub. Not only does it take corners well, it also flies and can be used to crush the life out of nasties.



BATTLE ISLE 93 – THE MOON OF CHROMOS

KOMPART UK OUT NOW £25.99

With *Battle Isle* and *Historyline* under their belt, Blue Byte have established themselves as programmers of first-class strategy games. Now they've released *Battle Isle 93* to hammer home the message.

The war which began on Chromos in *Battle Isle* has now spread to its volcanic moon. As resources on Chromos became scarce, you launched expeditions to the moon to mine the energy mineral Aldinium which is in plentiful supply there. Unsurprisingly, the enemy don't want you to gain control of the moon and so the fight continues...

Battle Isle 93 uses exactly the same user-interface as its predecessor although there are numerous subtle differences in gameplay. The most obvious difference is in the graphics. The lush greenery of Chromos has been replaced by the barren and at times volcanic terrain of its moon. Unscalable cliffs are a new feature of the terrain, obstructing ground-based mechanical units and literally forcing them to move in certain directions. Lava flows and craters also add another element of strategy to the game.

Most of the units from *Battle Isle* are still present in the *Moon of Chromos*, but they've all been redesigned for the satellite's harsh terrain. For example, troop carriers can now be very effective offensive units thanks to their mini-turrets. By contrast the FAV Busters are now less potent, although they have a greater attack range. There are also some brand new units, including a nifty invisible mine called a Virus!

Although I'm not an expert player, I initially found *The Moon of Chromos* much more difficult than its predecessor. The computer seems to play a much more intelligent and tactical game than before, although it still sometimes exhibits illogical strategy where factories and depots are concerned.

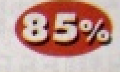
Even on the early levels, the game will take at least half an hour to complete and the later levels will take four hours or more.

I'm glad to say that the game is hard drive installable, and there are separate versions for ordinary or accelerated Amigas. It seemed to me that even the animation runs faster using a 68020 processor (such as that found in an A1200), but with an '030 this is not the case.

With *Battle Isle 2* due for release later this year, *The Moon of Chromos* is simply a stop-gap measure to satisfy those people who can't bear to wait.

However, the game-play has been tweaked in many areas so it's not just a glorified expansion disk. There are enough differences to make it feel like a new game, and I'm certain that *Battle Isle* fans will enjoy this game just as much as they enjoyed the original!

Mat Broomfield




The FAV Busters aren't as powerful as they once were, but look out for the Virus – a new unit which is invisible!

After defeating Krogh in Kendoria, you've gone on to bigger and better things. Tony Dillon warms up his sword arm once again.



'Civilisation' he breathes. If you can call that civilisation...

Ishar is, without a doubt, one of my favourite adventure games of all time. There was something fresh and exciting about the idea of taking control of a bunch of individual characters rather than actually role-playing a single one. The clever use of psychology within the party, mixed with the wonderful graphics, made it one of the most original RPGs yet seen, so you can understand why my hand shot up faster and higher than anyone else's when our beloved Ed asked who would like to review it.

SIMPLE MINDS

Since *Ishar*, the island itself has become a cultural and intellectual centre for the archipelago of Arborea (as first seen in *Crystals Of Arborea*). The people have become settled and the entire group of islands is as pleasant and fertile an environment as you could wish for. This kind of tranquil setting does not make for an exciting game, however, so enter the bad guy. An evil wizard has created a very powerful hallucinogenic drug, which he has used to poison the population of Arborea. The aim behind this is a simple one: rather than try to take the people by force, he can just twist their minds so that they accept him as ruler without question. Clever, huh?

Or at least it would be, but he obviously didn't reckon on you stepping into the breach. Take control of your party once more – your original *Ishar* crew, or start anew within the game, the choice is yours – and set out to vanquish the Wizard by working your way across the seven islands slaying beasts, rescuing people and living it up whenever possible.

Yes, you did read correctly, there are seven islands for you to work across, and you can't move to the next one until you've solved all the puzzles for the one that you are currently standing upon – the reason for this being that the guards on the harbour won't let you board your boat until you have completed any tasks set. Bullies.



Not exactly the big bad wolf, but one hell of a mean guy to beat.

DIFF'RENT STROKES

Of course, the first thing you'll want to know are the differences between this and the original. The biggest change of all is the rearrangement of the control panel. At first glance you might not see much difference, but notice how the attack icons have moved to the right-hand side of the screen.

Although the benefits of this aren't immediately apparent, you soon notice the improvement when you enter combat and start rolling off atomic attacks at the enemy. With this new system, the speed of your attacks increases to such a point that you can get five complete hits in in under a second!

SMALL AND NEAT

The large compass has been removed from the screen and replaced with a small, unobtrusive indicator. In fact, the only large icons on screen are the ones you would most commonly use or that you would want to get to in a hurry, such as the movement icons. Each character now has three or four sub-menus, depending on class, rather than the two employed originally. The first shows what they are carrying, the second shows their health statistics and the third opens up a character information screen, showing the various statistics for that character. The optional submenu, denoted by a red light, shows the collection of spells that character can cast, if any.

ACTION STATIONS

The action menu has been reduced to five options: recruit, dismiss, murder, first aid/heal and map. The others, such as orientation, were dropped simply because they just weren't necessary.

In the case of orientation, that has been superseded by the new improved map – something that will please anyone who has been playing *Ishar* for any length of time.

IT'S BIG – REALLY BIG!

One of the selling points of *Ishar* was its immense size. Clocking in at a mammoth 160,000 views scattered over 40,000 locations, there was more than enough mapping to keep any adventurer happy. This time, however, Silmarils mean business, and have come up with a game with no less that 100,000 locations giving you a stupendously massive 400,000 different views, all built up from the same collage system of building blocks employed in the previous game. Whew!

The pubs are still a great place to meet people, but which of these rogues are you willing to trust?



The view from the docks is stunning, don't you think? I fancy a swim.

A1200 SPLENDOUR

At present, *Ishar 2* is completely and fully compatible with the Amiga 1200, so if you like you can rush out and get it now. However, before too long an A1200 specific version will appear with the most stunning 256 colour graphics known to man. The only question is, can you wait that long?

Hmm, the guys don't want to take the orc into the party? Perhaps he needs a decent shampoo and deodorant!

GET LOST, BUDDY!

The biggest problem with *Ishar* was that it was too easy to get lost. Although the game had a map, it had no marker to show you where you were, so it was more or less useless. In situations where a character would tell you to head in a westerly direction to reach a town, you could walk for miles without finding what you were looking for. The new map shows you in detail where you have been, roughly where you are going and exactly where you are – a real boost for getting around. With this new system you can get back to an exact spot with no trouble at all – try doing it in *Ishar*!

Ishar 2 is a very cleverly scripted and designed game. The storyline unfolds beautifully as you walk through the game collecting information. Almost everything everyone tells you has value, even if it appears to mean nothing at the time, so it's worth making notes of what you hear. You begin knowing very little about what's happening, but before long you'll find yourself on the right track, free of frustration.

WORD ASSOCIATION

The psychology of the first game has really been explored in this package, and it works remarkably well. I felt that the individual characters in Ishar were a little underplayed, but they shine in this. As you hire your party, you really do need to note the characters you take on board, because a bad mix means poor team spirit, which can lead to all sorts of disasters. For example, at one stage I had an excellent thief who was a wizard with a dagger. Unfortunately, no-one in the party liked him. He got seriously hurt in combat, but no-one would perform first aid on him, claiming they just hated him. As a result he died and I lost a good fighter. That taught me to be more careful.

The presentation is simply incredible. The graphics are among the most breathtaking seen on the Amiga – the view from the city gates over the harbour is awesome – and they have been massively upgraded since the original *Ishar*. To think this is just the 32 colour version! The impression of height created when climbing the mountains is indescribable. These, mixed with the non-stop background of sound effects and music make this one of the most atmospheric adventures around.

Ishar 2 is a must buy. If you like adventures, you will happily remove your own limbs for this.

THE FIRST ISLAND

As you've probably read, the game is broken up over seven huge islands now, rather than the single landmass of the original. Travelling between the islands is easy enough – just get on a boat. Before you can get a boat, though, you need to complete the island's puzzles, and merely finding them can be a struggle in itself. I'm willing to lay my cards on the table and reveal all, so here's the complete solution to the first island of *Ishar 2*.



The king is upset because someone has stolen his daughter's necklace. Who would have the audacity?



There he is! That's the one!

You begin standing near a stone circle in the middle of the island. In front of you are three thugs attacking a young girl. You need to speak to her, but there is no way you can overpower the thugs alone – the large one is enough to keep a complete party occupied, believe me. So, instead of heading towards them, head north to the large village. There, find the pub to the west of the well and recruit some characters (there's a thief in the well, but your party won't like him). Now go to the shop on the other side of the town and stock up. If you have the money, buy a bow or two and plenty of arrows.

Return to the stone circle and kill the thugs. To kill the large guy, attack him at a distance with arrows to weaken him, and then step in. When he's dead, the girl will give you a pendant. Take it and head east into the forest.

Some large lizards will attack you, but these are easily dispensed. Continue east and you'll meet the giant lizard. Step back and attack him with arrows. Use as many as you can, then step in and pulverise him quickly – he's strong and will take a lot of hits. Once he's down, take the necklace he was wearing.

Now head for the harbour in the south-west corner and your way will be blocked by a beggar. Attack him and you'll be arrested and taken to the castle. Here the Lord of the Manor will tell you that his daughter's necklace was stolen. Give him the one you found and he will give you access to the boat. Now go back to the harbour, and you're away!



The new improved map. Only two islands are visible at the moment, but more appear as you work through the game.

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RELEASE DATE:	JULY
GENRE:	RPG
TEAM:	SILMARILS
CONTROLS:	MOUSE
NUMBER OF DISKS:	3
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

GRAPHICS	97%
SOUND	86%
LASTABILITY	91%
PLAYABILITY	89%

Surely the most incredible RPG ever! An astounding sequel!

OVERALL 93%

SPACE LEGENDS

Apart from being good value for money, compilations are a good way to prevent boredom from creeping in. Empire's latest unites three of the most popular space games ever.



CU AMIGA SCREEN STAR

If you've got a 1200 *Wing Commander* is excellent, on an A500 or A600 we're talking unplayably slow. It's not worth trying on those machines.

ELITE PLUS

When it was released on the BBC back in 1984, *Elite* sent shock waves through the gaming world. Programmers Bell and Braben had mixed strategy, trading and a space combat simulation to produce something that had never been seen before.

The premise is simple, all you have to do is make a name for yourself in the galaxy by fighting and trading. There are no restrictions whatsoever, and you can play the game any way you like. This means that if you prefer the life of a pirate or cargo raider you can arm your ship with powerful lasers and head off to seek your fortune. Of course, before you can do any of that, you'll need to earn some cash.

By today's standards the graphics look very simple, but the vector space craft are fast on any machine. There are eight massive galaxies to explore and several special missions you're asked to undertake. So you're guaranteed not to run out of game in a hurry.

For all the nostalgia value, *Elite* does show its age, although that doesn't prevent it getting a high ranking in my all-time Amiga top ten. It may sound biased, but I like it and there you are.



Left: You're about to leave the docking station for your first mission in *Elite*.

MEGATRAVELLER 1: THE ZODANI CONSPIRACY

This is definitely the worst looking of the three games, but the most absorbing. You and your band of amateur space adventurers were having a quiet drink in the local hostelry on Efate when an intergalactic security officer bursts in, mumbles some cryptic message then asks if you would be so kind as to deal with the gang of armed men who are following her.




Your party get slaughtered in *MegaTraveller*. There's a sequel, but this game's so big it should keep you busy for ages.

This is your introduction to life in the future. From here on in you're on your own with only the game's manual for comfort. The first thing you need to do is tool up with weapons. Laser guns swords and armour are musts for techno adventurers.

One thing you do start the game with is your very own space ship. Taking off leads to a crude action sub game where you have to try to steer the ship to the right planet. This part of the game is extremely tiresome and really lets the side down.

MegaTraveller was never a pretty game. From the moment it was released it was dated. That doesn't mean it's bad. The comprehensive play system is reminiscent TSR's boardgame RPG Star Frontier. There are puzzles to solve, planets to explore and an army of alien mercenaries and criminals to overcome.

WING COMMANDER

Wing Commander has both a good side and a very bad side. Play it on an Amiga 1200 or 4000 and you're in for hours and hours of excellent space-related japery, play it on any other Amiga and you'll find yourself cursing the programmers and their inability to get the game running at a decent speed.

Ignoring the speed aspect, *Wing Commander* is a thoroughly absorbing game. Recruited as a young flight officer, you're given the latest piece of space hardware with a view to going and destroying mankind's deadly foe, the Kilrathi. The action is punctuated with excellent cut scenes which update you on the plot. These lead to the game coming on three disks, and while the disk swapping isn't too frequent, installing it on the hard drive makes life easier.

The graphics are excellent, with well drawn ships and awesome explosions. This is what makes the game, it just wouldn't be the same if you were up against vector-drawn craft.

For owners of 32-bit machines this is the icing on the cake, for everyone else at least you have three blank disks to put your save games on.

THE VERDICT

If it wasn't for *Wing Commander* being almost unplayable on 16-bit machines, this would be one of the best compilations available. *Elite* is still excellent after all these years and *MegaTraveller* is so huge it will keep you going for months. If you think your machine can handle *Wing Commander*, or you can overlook the sluggish gameplay, this is a package you shouldn't be without. CU



You start *Elite* with almost no money and absolutely no respect from other flyers.

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RELEASE DATE:	OUT NOW
GENRE:	COMPILATION
TEAM:	VARIOUS
CONTROLS:	MOUSE/JOYSTICK
NUMBER OF DISKS:	6
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

VFM	87%
LASTABILITY	88%
PLAYABILITY	87%

One of the best compilations in ages.

OVERALL 89%


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It's time for another trip to the bargain basement as we round up the best of this month's cut-price offerings.



BUDGET

PREHISTORIK

TITUS OUT NOW £9.99

As dinosaur fever begins to grip the nation, what better time to re-release the old Titus platform club 'em up, *Prehistorik*. For those of you who missed it the first time around here's a quick run down of the plot. A lone caveman, whose name is probably something like Ugh or Bleurgh, is getting a little hungry. So, he goes on a mammoth shopping spree (mammoth as in large, not as in hairy elephant) through prehistoric Earth. Armed only with a club he has to take on the best that nature has to throw at him, including mini-tyrannosaurus, brontosaurus and all manner of large, lumbering beasts, all of which can be felled with a couple of swings with your trusty club.

Interestingly enough, Ugh just happens to be a vegetarian, so instead of eating the dinosaurs he smashes to a pulp, he simply walks past them and collects the points they represent, and then wanders into their caves and steals their food, which includes berries, apples, bananas and various other kinds of fruit.

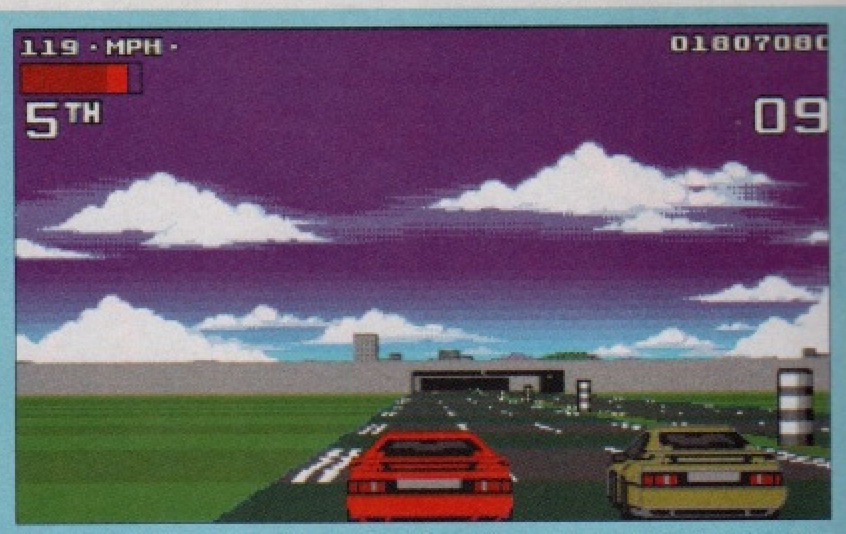
This isn't the most derivative platformer in the world, but it comes close. In a lot of ways it bears a striking resemblance to Chuck Rock, although with some major differences. The screen doesn't scroll, for a start. Secondly, there is very little in the way of animation. Most sprites have only two or three frames, which looks a little sad when compared to more recent, better quality games. It isn't too bad a game, but there's nothing I can really recommend about it.

59%



The cuddly rampaging Tyrannosaurus Rex. Couldn't you just give it a big hug?

The brontosaurus is a lot harder than it looks, taking quite a few hits before it keels over with a headache.



The motorway course is one of the most gruelling, with narrow lanes for little manoeuvring room, and the constant threat of oncoming traffic.

LOTUS 2

GBH OUT NOW £7.99

Lotus Esprit Turbo Challenge was the game that really made Gremlin Graphics the force it is today. *Lotus 2*, featuring the Lotus Elan, merely strengthened the reputation of the original. *Lotus* was one of the first true arcade quality racers, but some people found that racing around a collection of similar looping tracks against an identical backdrop got a little tedious after a while. Always ready to listen to the public, Gremlin took on board what people said and came out with *Lotus 2*, essentially the same game but refined and revised completely.

Now, rather than race around a series of looped tracks as part of a league, you have to make your way across eight long courses, taking you over the snowy mountains, through the dark night city streets, across a desert and even along a motorway where it's a little too easy to career into the wrong lane and get hit by oncoming traffic! The varying conditions can pose a real problem – try anticipating a sharp right hand turn in extremely foggy conditions – and so add to the game challenge greatly.



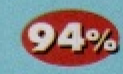
Yes that is a truck ahead and yes, it is crossing your path. Drive under it for loads of points.

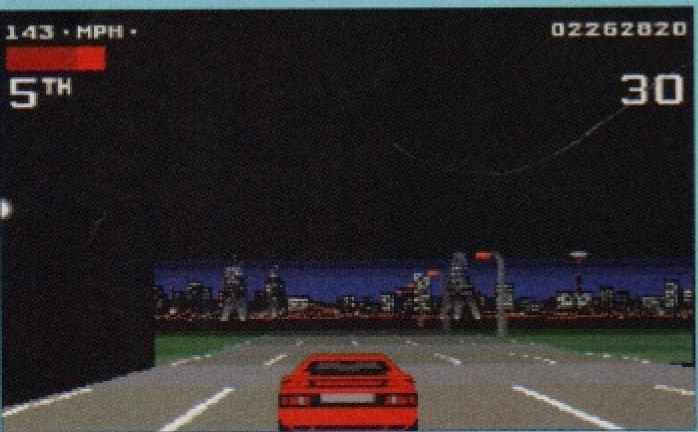
Lotus 2 features the same single and double player modes of the original, with the big difference being that in solo mode the player gets a full-screen view of the road. Add to that the fact that you can link up two machines and play with a total of four players, and you have one excellent excuse for phoning your mates!

I haven't played *Lotus 2* in quite a while, especially after the release of the superb *Lotus 3* and the equally brilliant *Jaguar XJ220* from Core Design, so it was a nice to see that this hasn't dated at all. Visually, there isn't a lot of difference between this and its successor, which isn't surprising as there isn't much room for improvement.

The sprites are slick and convincing, as is the scaling of objects from horizon to foreground. In fact, the overall impression of speed can be quite overwhelming, particularly on the fog and snow tracks.

An exciting race game with more than enough in the way of challenge and variety. At this price, you'd be a fool to miss it!





Driving at night without headlights is a bad idea. Remember, be safe – be seen

CRAZY CARS 2

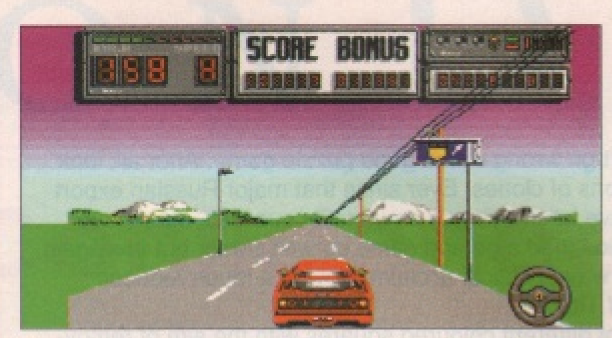
TITUS OUT NOW £9.99

For a while, Titus released some really awful driving games. I mean really awful. Anyone who has ever played *Crazy Cars* or *Fire And Forget* will know exactly what I mean. The screen shots looked incredible, but a complete lack of animation and the most unconvincing scrolling ever made these games laughable. *Crazy Cars 2* was a step in the right direction, but Titus had to wait until *Crazy Cars 3* before they got anywhere near the mark.

The game is a very simple affair. You are a lone criminal on the run from the police and have to cross as many state lines as you possibly can. Or something along those lines anyway. The practical upshot of it all is that you find yourself cruising at high speed along some of the most deserted highways in the US with the only other traffic being the local cops that try and block the road or run you off it.



The open road, the sun high in the sky. All you need now is a car that can drive straight.

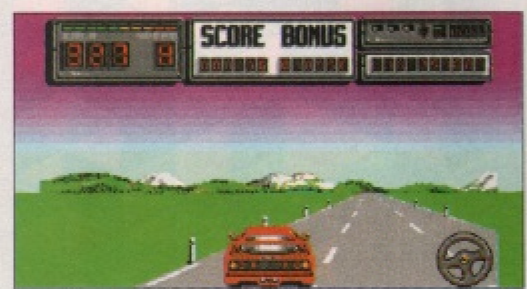


The signpost tells you the way to the state line. Follow the arrows or you'll have hell to pay.

My first thoughts when loading this were 'what sort of racing game has no other cars?' Once the game was up and running, I could understand why. *Crazy Cars 2* is very, very hard to play. Where most games of this genre play along the lines of 'right turns the car right, left turns the car left', this one works on a non-returning steering wheel principle. Pushing left slowly turns the steering wheel left, and releasing the joystick leaves it turned. To centre you have to steer right – this can take some time – so trying to keep the car on the road while going round a sharp bend is an acquired skill.

It's not bad, but with *Lotus 2* released this month, why would you bother?

61%



That cop is not going to be too happy when you career into the back of him!

BUDOKAN

HIT SQUAD OUT NOW £12.99

The budget market is many things, one of the worst being a resurrector of many games you'd hoped had gone for good.

Budokan is one such game. As a budding martial artist, you train in areas such as karate, kendo, nunchuks and get to wield the ferocious bo stick. Each area has a great many moves which are executed with wrist-breaking combinations of joystick movement and fire button, as you battle your way through a succession of expendable Japanese pensioners who act as your sparring partners.

Once you've mastered a few basic moves in each discipline it's time to move on and enter the Budokan. Here the greatest fighters converge to beat each other to bloody pulps, thus proving how in tune they are with their inner self. Most of the fights turn out to be massive mismatches as you're allowed to choose your own style. So if you're facing a Karate master, simply pick up a six foot bo stick and batter him at long range, thus preserving your strength for the next encounter. You only need to be proficient with three or four moves, as the rest do the same things but with added twirls.

This isn't what you'd call action packed. In fact its more action-lacked as the fighters sluggishly twirl their nunchuks at each other. The lack of speed carries over to the controls, which are unresponsive and make playing the game horribly frustrating.

Despite the obvious realism, you're probably better off giving *Budokan* a miss, especially when it's at a 'budget' price of £12.99. Go for *Body Blows* or *Streetfighter 2* instead, they may be far-fetched, but at least they're fun to play.

35%



Don't expect to see your deadly blows translated.



The grid, and everything looks dandy. Sadly it all goes wrong in a moment, and a still picture really can't show you how bad this is.

HOT RUBBER

TITUS OUT NOW £9.99

This has to be one of the tackiest titles I've ever come across, with a cover that ranks up there alongside Barbarian and Vixen. *Hot Rubber* is your standard bike racing scenario, featuring a handful of riders racing hell for leather around the most famous courses of the world, pausing only to collect medals and shake champagne all over each other.

I must admit, I'm a very big fan of bike racing games. From *Team Suzuki* to *Super Hang On*, I always have my eye out for a new one. This is quite definitely the most appalling one I have ever seen. It's completely unplayable in every respect, with a useless two-player mode and some of the smallest player windows ever seen.

You begin, as always, on the starting grid, and at this point things look really good. The graphics are fine and detailed, and everything looks fairly realistic. Then the light turns green and the other riders hit the horizon in about three hops. Push forward to get moving and you hit this game's big problem. Rather than have you at the centre of the screen with the road swinging around as you change lanes, the programmers obviously decided that that was too much hassle, and opted for the other side of the coin, which involves the road being centred and the sprite of the bike moving around unrealistically. The result of this is that it's impossible to judge corners correctly, and as for overtaking – forget it.

This is one useless game. Even as a budget title, it just isn't worth the disk it's recorded on.

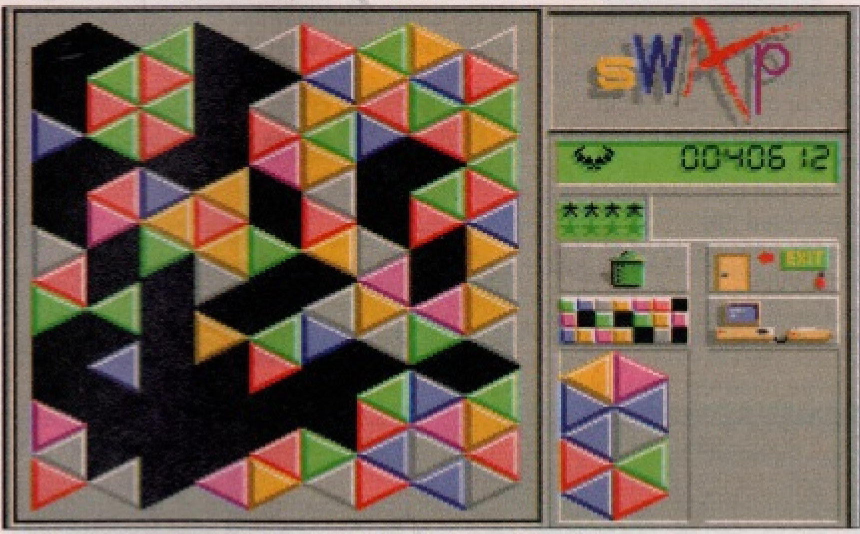
31%

» SWAP

TITUS £9.99

They always say you can't go wrong with a good puzzle game. After all, look at *Tetris* or any of its millions of clones. Ever since that major Russian export hit the shelves, people have been trying to emulate its success. Most have failed.French outfit, Microids, had a go and came up with Swap, but this again failed to gain much in the way of critical acclaim. Now at a much reduced price, it's back courtesy of Titus.

You begin with a grid of different coloured squares with the aim of removing every single one. Whenever two shapes of the same colour are placed together, they explode leaving empty space behind. The only way to get two shapes together is to 'swap', flipping pairs of shapes to bring colours together. To begin with, almost any swap you do will result in some blocks being removed, but as you continue you'll find it harder and harder as the gaps get larger and before you know it you'll have no pairs left to flip.



The triangles level. Can you see how to finish this in five easy moves

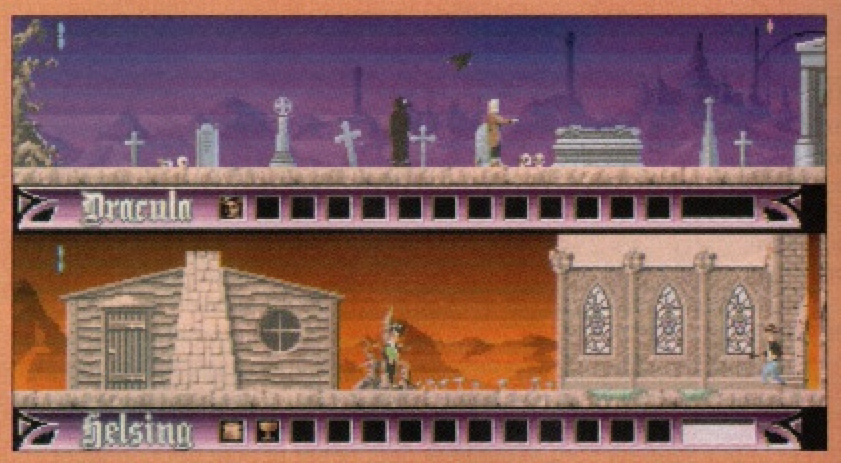
At the side of the screen you have a couple of handy gadgets which allow you to place extra blocks on the screen with the colour of your choice – just right for getting rid of those hard-to-reach problem areas, and a collapse icon which causes everything on screen to drop and settle in a neat pile at the bottom of the screen.

Things get more and more difficult as you progress from squares to triangles to hexagons, getting more and more complex. Not the most addictive game around, but definitely worth a look.

78%



Before each level you're told what shape the pieces are, and how many colours you're going to have to contend with.



Van Helsing searches the churchyard and Dracula hunts the graveyard. Who'll come through first?

THE BRIDES OF DRACULA

ZEPPELIN OUT NOW £9.99

I remember seeing Gonzo Games demonstrating this title a couple of years ago. Why it has taken so long to surface is anyone's guess, but I'm glad it finally did. The plot is a simple one – Count Dracula is alive and well and is looking for a wife. The nearby town of Bistritz has 13 suitable candidates, but before any can become a bride, Dracula must first bite them and then lead them back to the castle, where they will wait in their coffin for him.

Unfortunately, Van Helsing is also alive and well, and has a few scores to settle, so is also searching the town with an eye for revenge. He'll stop at nothing to get his hands on Dracula, and that's where the fun begins.

In this one or two player game, you and a friend can play either of the characters in their relevant quests. It's all played out on a split screen, horizontally scrolling landscape with both parties occupying the same world. To begin with, they start as far apart as possible – Dracula searching for wives and Van Helsing looking for the tools he needs to destroy the dark Count. However, as the game progresses the tension mounts and before too long you'll find yourself crossing each other's path constantly.

It's all good fun, and very easy to get into, despite the slightly confusing screen layout. The simple controls mean that before you know it you can get right into the game. An excellent attempt at an odd idea.

73%



Dracula finds one of his brides, turning her from a shy, retiring lass into an Elvira clone.

EDD THE DUCK 2

ZEPPELIN OUT NOW £9.99

I don't know about you, but I find Andi Peters' sidekick to be one of the most irritating things ever to grace my TV, and the thought of two games based on the same character is enough to send shivers down my spine. But still I sit here playing it, and I have to admit that, even with my low expectations, I was disappointed. With the exception that the main character is a duck, this game has almost nothing to do with the inbred son of Sweep from the Sooty show. Surely the most obvious thing to do would be to sample his kazoo voice, but no. This Edd quacks.

The game falls somewhere between *Treasure Island Dizzy* and *Fantasy World Dizzy*, with a little Dizzy thrown in for good measure. In short, it's a scrolling platform game with attempted cute graphics and very little in the way of lasting gameplay.

As Edd you must travel through the Wild West in your best cowboy outfit, avoiding such terrors as large cowboy hats and electric sparks that travel up and down telegraph wires. Most of this is done by jumping, although you can use your gun to shoot down the opposition. Hang on a moment – Edd the Duck with a gun? Surely not! Well, OK then, it isn't a real gun. All this weapon is capable of firing are custard pies which merely stun the enemy for a short period of time.

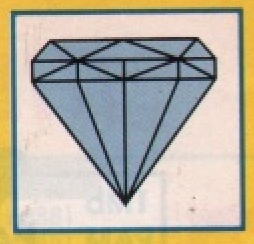


Bullseye! Who needs a fishing rod to catch fish? All you need is a handy custard pie!

Everything about this game reeks of budget quality. Fine if you want a five-minute platform game, but there are so many better examples of the genre about.

41%

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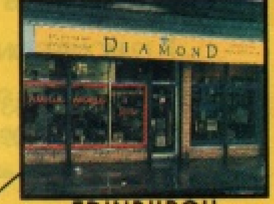


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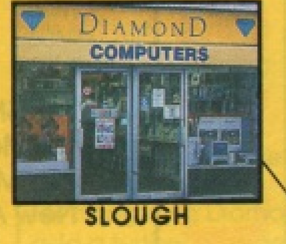
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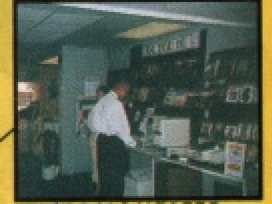
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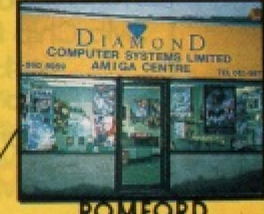
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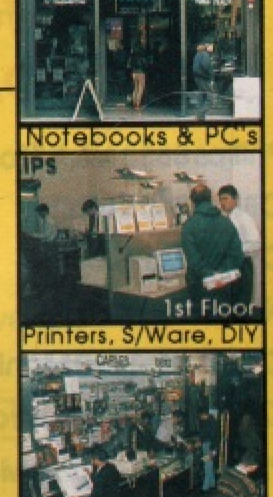

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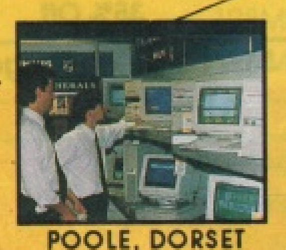
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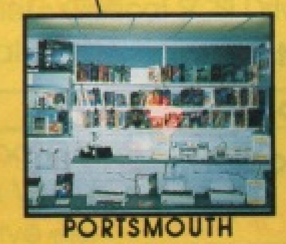
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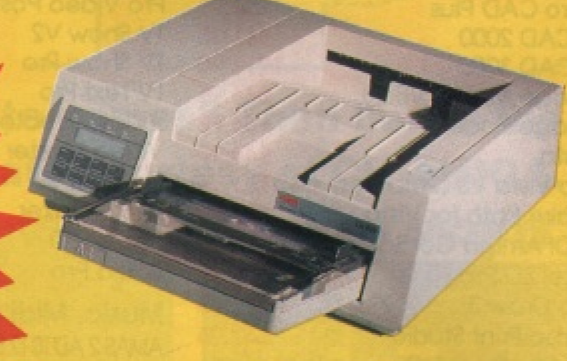
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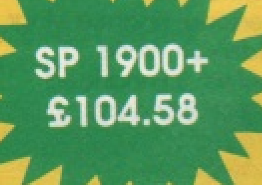
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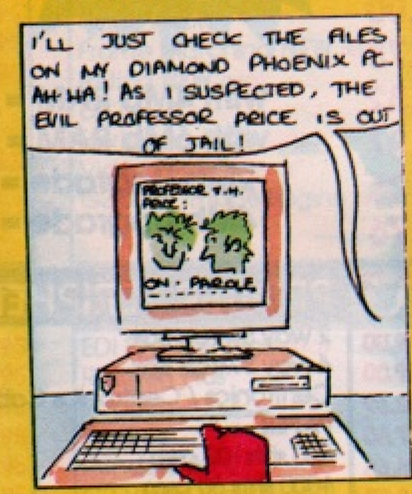
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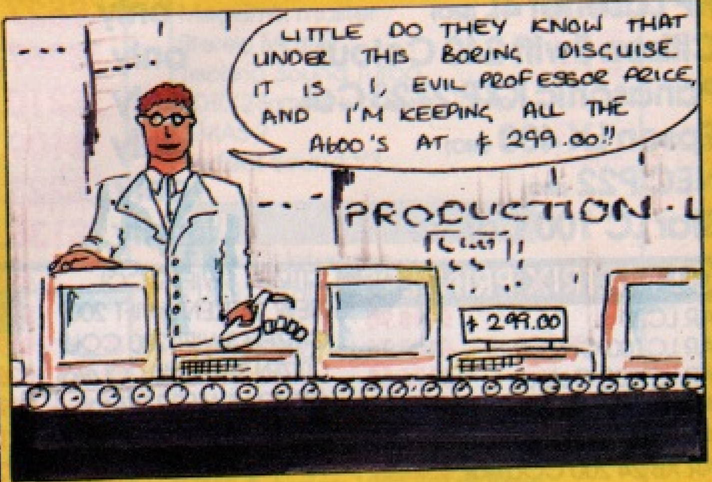
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SMALL TiPS

Are you fed up with struggling through your favourite games? Then here's the answer to all your prayers – the latest tips and cheats courtesy of CU AMIGA.

FANTASY WORLD DIZZY

To make Dizzy's quest a hell of a lot easier, simply enter your name as IMMORTAL on the high score table. This should imbue the egg-shaped one with infinite lives, making the game much easier to complete.

Thanks go to Neil Collins of Maidstone for that one.



TERMINATOR 2

As this has just been re-released on budget we thought we'd print this handy tip. If you're finding that Arnie isn't quite as hard as you remembered him, hold down all the F keys during play and you should be transported to the next stage. If it doesn't work, you should try pressing them one after the other.

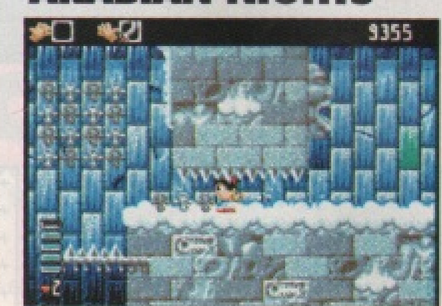


SUPERFROG

The frog is only as super as the person controlling him. If you're making a sad mockery of his abilities, use these codes to skip to the next level.

1.2 234644	3.4 091332	6.1 387211
1.4 747822		6.2 981122
	4.1 467464	6.3 017632
2.1 392822	4.2 818234	6.4 398112
2.2 446364	4.3 182394	
2.3 984448	4.4 298383	
2.4 477444		
	5.1 452234	
3.1 343522	5.2 984841	
3.2 882311	5.3 383771	
3.3 992334	5.4 093152	

ARABIAN NIGHTS



Having trouble with Krisalis' Eastern platform romp? Then let us help. As you've probably discovered, the toughest part of the entire game is beating the Vizier. Here's how to overcome each of his four elemental attacks.

WIND: The Vizier materialises on one side of the room and a set of spikes appears on the other. As soon as the wind starts blowing keeping jumping towards the Vizier and attacking. This should keep you clear of the spikes.

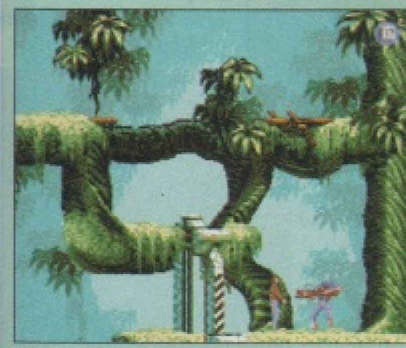
WATER: Avoid the spinning bubbles. If you get caught they'll push you up towards the spikes, so move left and right rapidly to escape.

EARTH: Watch the walls as the blocks will start flying out. Duck and jump to avoid them. You'll always be attacked by the block level to you, so keep moving left and right as well.

FIRE: Keep your fingers crossed and do the best you can to avoid the fireballs by ducking and keeping to the sides of the screen. Eventually the spikes vanish, giving you a chance to get a few hits.

FLASHBACK

However difficult life may seem in this excellent game, you can always skip past the tricky bits with these codes.



EASY	NORMAL	DIFFICULT
Level 1: Back	Level 1: Play	Level 1: Clop
Level 2: Loup	Level 2: Toit	Level 2: Cara
Level 3: Good	Level 3: Zapp	Level 3: Cale
Level 4: Spiz	Level 4: Lynx	Level 4: Font
Level 5: Bios	Level 5: Scsi	Level 5: Hash
Level 6: Hall	Level 6: Gary	Level 6: Fibo
	Level 7: Pont	Level 7: Tips

LOST VIKINGS

The Vikings may be trapped in space, but they're not without help. These codes will take you to any point in the game with maximum energy but no items.







1 STRT	8 PRHS	15 SPKS	27 WKYY
2 GR8T	9 CVRN	16 JMNN	28 CMBO
3 TLPT	10 BBLS	17 TTRS	29 8BLL
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SHRINE OF KNOWLEDGE

Draw near and ask your question. Don't be embarrassed, even the most noble adventurer is sometimes stuck for a clue. Behind the velvet curtain is the Shrine of all Knowledge where the deepest secrets are revealed and hearts are laid bare.

MIGHT AND MAGIC III

Elliot James has wisely written in a most humble way, begging to be allowed to prostrate himself before the Shrine. Having battled his way to Castle Whiteshield in *Might and Magic III* he has been defeated by the cryptic message which adorns the courtyard where the four statues of Leadbeast, Jobelle, Teshy and Astriel stand. The message says:– 'Seek the four warriors, North before South, East before West, Subtract the castle's name, And you'll pass the test'.

The Shrine replies: The answer you seek is JOABARY. I won't bore you explaining why, as I'm sure that you'll realise where you were going wrong once you've seen the answer. Now if you want to know two really powerful magical words which are known only to the innermost circle of wizards, here are a couple which will blow your mind. Stand before any Mirror Portal and type ORB MEISTER and you'll be transported to the passages beneath the pyramids. Here you can find an Ultimate Power Orb. Take that to the King and you'll be handsomely rewarded. Should you use the command DOE MEISTER you'll be transported to a room stuffed with riches. It is possible to return from this place, but it will take some thinking about.

KING'S QUEST V

Conrad Fenech didn't tell me his address – perhaps he's too embarrassed. However at the moment he is residing on Mordack's Island in *King's Quest V*. His inventory consists of a key, crystal, hammer, empty peabag, amulet, hook, hairpin and smelly fish. He has placed Crispin's Wand on one side of the apparatus in Mordack's Lab and got rid of the blue creature using the dried peas from the cupboard. He also claims that he's read the strange symbols in the book in the Library and tried giving the fish to the cat. Now what?

The Shrine replies: Mordack tends to be a nuisance in this game as he wanders around and keeps turning up at the wrong time. My advice is to keep saving your game position, for there are occasions when it seems that the only way to avoid him is to reload at an earlier point. What you haven't done is use the hook on the mousehole in the dungeon cell. From here you'll find a piece of smelly cheese. Restrain your natural urge to have a feast with the fish and cheese and instead head for Mordack's Room. When he decides it's time for a cat-nap, you should sneak in and steal his wand. Now you can go to the laboratory and place his wand at the opposite side of the machine. Place the cheese in the fuel pot at the bottom of the machine. Now take Crispin's wand and wait for Mordack to reappear.

LURE OF THE TEMPTRESS

Nicola Fairclough from Skipton has a complaint. It seems that every hint she's ever read concerning *Temptress* is how to get into the castle. Well, she's done that bit! What Nicola needs is for someone to tell her how to operate the damn drawbridge.

The Shrine replies: Yes, this is a tricky problem which drives many players wild, so don't feel too stupid. I assume you've got the fat and the tongs. Talk to the stranger twice and tell him you've come for Selena. Talk to Minnow and find out about the Skorl's desires. Tell Minnow to advise the Skorl that Selena wants to see him. Use the tongs on the bung in the barrel. Tell Minnow to tell the Skorl about a leaky barrel. Once the Skorl is out of the way, count to 10 then you can get to the Gateroom and use the fat on the lever. Once Minnow arrives you can tell him to pull the lever while you operate the winch. This requires some practice to synchronise your actions.

LEGEND OF KYRANDIA

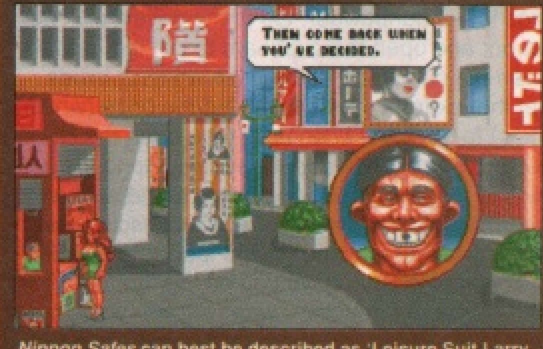
Emma Smith is 14 and talks to trees. She has been wandering around the Timbermist Woods in the *Legend of Kyrandia* searching for birthstones



The magic kingdom of Kyrandia is ruled by a cruel jester who makes the life of all a misery. Here your first mistake could be your last. A little like the CU AMIGA Editorial office you might think. How right you are!



Three adventurers are required to crack the secrets of the *Nippon Safes*. Are you as thick as two short planks nailed together, but also immensely strong? Or are you a female exotic dancer, forever being arrested for indecent exposure? Do you look like Mr. Bean, but possess a brain like a computer? If you can answer yes to any one of these three descriptions, then Dynabyte Software have a job for you. Billed as a 'Parallaction game', Nippon Safes is a graphic adventure with a difference. Three separate games are rolled into one, depending on which of the three different personas you choose to adopt. Tyoko in Japan is the setting for this tale of safe cracking and wacky skullduggery. It's all icon-driven and the graphics have a definite comic book style. The game was created in Italy, so it has that indefinable Continental flavour which either makes you want to smile or groan. Looks like fun.



Nippon Safes can best be described as 'Leisure Suit Larry goes to Japan'. This is an offbeat game with a strange sense of humour. Depending on which character you choose to play, you'll get a different set of puzzles to solve.

RULES OF THE INN

The venue for this year's annual 'Berserker's Murder and Mayhem Day' will be in the Bog of Despond on Skull Moor. NOTE: If wet – in the 'Bide a While' Tea Rooms.
By Order of The Innkeeper.

»

ABANDONED PLACES II – HELPLINE

There are times when the best of us need a helping hand, and none more so than with this massive game. If you are at your wits end with this RPG (or its predecessor) then you can ring ICE for advice between 4:00 and 8:30 on 0453 756993 (Mention that you read CU Amiga and you'll get extra special attention!) The calls are charged at the normal rate. If you would like a full set of maps, helpful hints, plus some save game positions, for either API or *APII*, then send £10 to ICE, Bridge House, Merrywalks, Stroud, Glos. GL5 1QA and they'll oblige.

One tip which you really must take is to keep more than one save game position for this game. The game does not have the option to save more than one game file on a single disk, so floppy disk users should keep different save positions on a number of disks. This is an essential precaution – there are at least two positions in the game where a wrong decision could mean you will have to restart from the beginning unless you can reload from the start of your current level (e.g. Dwarven Mine Level 2). Hard disk users have a slightly bigger problem as they cannot save to floppy disk and each time they save they overwrite the previous save game. In this case I would advise you to take a copy of the file at the start of each level and store it under a different name should you need to get it back. The name of the save game is SAVE_01.DAT. Simply use the Amiga's Command Line Interpreter to change to the directory containing the *APII* files (e.g. CD GAMES) then COPY SAVE_01.DAT LEV1.DAT If you ever need to return to the old position you can RENAME whatever Level file you want back to SAVE_01.DAT (e.g. RENAME LEV1.DAT SAVE_01.DAT)



The deeper you go into *Abandoned Places II* the nastier it gets. If the slime on the floor doesn't get you, then they've got monsters hanging off the ceiling which will.

for so long, she claims that she knows each tree personally. Can the Shrine tell her where she can find the missing birthstones she requires to place on the altar?

The Shrine replies: My awesome powers tell me that you have already found the first stone which is the Sunstone from beneath the waters of the bubbling fountain. I fear the next two stones are randomly selected for each game, so I cannot tell you what you seek. However as I recall you can't walk two yards without falling over gems, so provided you visit every location that is available, (that includes trecking back over the bridge) you should find them. The last stone is always the ruby from the Ruby tree. If you get bitten by the serpent you can use the amulet to rid you of the poison.

ZORK III

The Royal Puzzle of *Zork III* is possibly the nastiest problem ever devised, and that's something that Nirmal Singh from London is already all too aware of. Not content with being driven mad with one Infocom adventure, Nirmal wants to know when the *Lost Treasures of Infocom* will be released.

The Shrine replies: Activision is the publisher who is releasing the compilation of Infocom's games, and as far as I know they are available now, although I have been unable to speak to the publishers as they have their headquarters in France and the phone-box in the Gents has been stuffed full of hamburgers again! At least I can tell you the secret of the Royal Maze. 1. Go down the hole, then push the South wall. Go East, South, East, East. Push the South wall, get the book, then push the South wall again. 2. Push the West wall twice. Go East, South, and push the East wall. 3. Go North until you come to the marble wall, then push the East wall. 4. Go West, South, South, South, South, East, East, North, North, North, and push the West wall. 5. Go East, South, South, South, West, West, West, West, North, North, North, West, North. Push the East wall three times. 6. West, West, South, South, East, East, South, and push the East wall. 7. West, West, West, North, North, North, East, East, and push the South wall twice. 8. West, South, South, East, East, North, and push the West wall twice. 9. South, West, and push the North wall as far as it will go. 10. Go West and North – and you'll have made it!

OPERATION STEALTH

Robin Francis from London has managed to escape from a watery death in the flooded cave and made it back to the hotel where all further progress seems to stop.

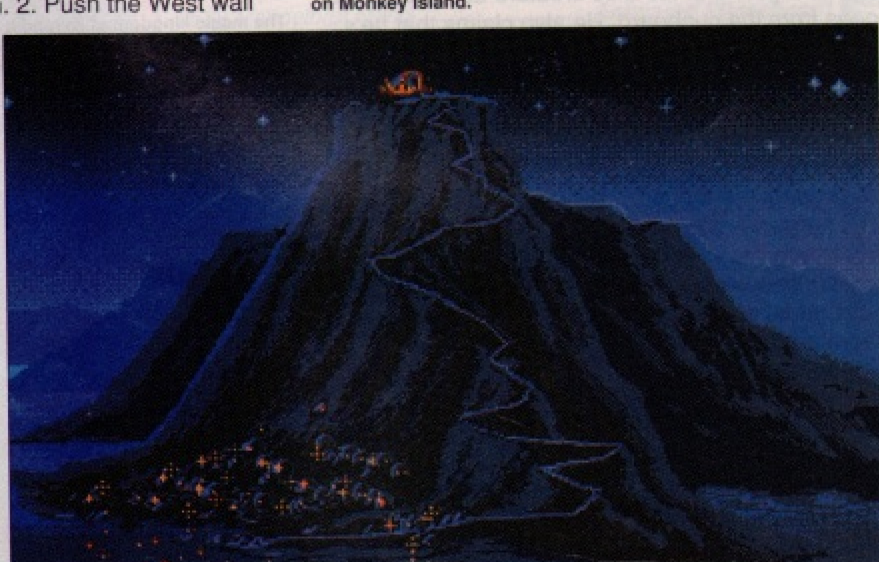
The Shrine replies: Providing you changed all your dollars into the local currency (I believe this takes two operations at the bank) you can now buy an inflatable bracelet from the man on the beach. Use the lift to go to the second floor of the hotel and then use the stairs to climb to the third floor. Open the correct door and you'll meet a beautiful young girl – and a load more trouble!

GOBLIINS II

Apart from being a gormless Goon, Eccles is the name of the place where Stephen O'Neill comes from. Having bought Gobliins II he is stuck after solving the problems of the Wizard's house. He doesn't say that he's got the key from behind the poster, plus the one in the cuckoo clock, but I'll take his word for it.

The Shrine replies: IF WINK = W AND FING = F THEN GO SOLUTION!

Beneath a starry sky, balmy breezes stroke the tropical islands of the Caribbean. This idyllic scene is the start to an adventure of a lifetime. Sign on in blood to become one of the pirate crew on Monkey Island.



Go outside, use key on cellar and get the wine. Go back to the first scene and use the water on the flowers, F get flower and give to notable. W stand on doormat, F press button to send W onto roof. W gets sausage. Go out through gate. W get chicken, F hit chicken over head with sausage and get egg. F use sausage on pothole to distract dog, W walks past. W into tree to open burrow. Both back to giant. F uses matches on firewood. Use egg on fire. Give wine and sausage to giant.

Outside castle go left to tree and straight out via the branch half way up the left-hand side. W use bottle on nymph. W use bottle on Kael. W use Kael's hand to get in tree. W use branch, F gets flower. Both get down. F uses flower on stone in bottom left-hand corner. Use stone again to get honey. F stand on rock behind stone, W use stone and F jump onto bee's back. Give honey to nymph. F get mushroom. W knock on door then give mushroom to heron.

MONKEY ISLAND

You would think that there is nothing like a sea trip to make you feel good, but Neil Wright from Derby is feeling pretty sick at the prospect. Having finally got his crew on board ship he is all set to raise the anchor and set sail for Monkey Island, but his crew has gone all mutinous and won't lend a hand.

The Shrine replies: Climb the rope ladder and get the flag. Go down into the hold and get the rope and fine wine from the chest. Pick up the kegs to get gunpowder. Go to the galley, pick up the pot and open the cupboard to get the cereal. Open the cereal to get the prize which is inside. Get the ink from your cabin. Use the prize (which is a key) to open the cupboard, then open the chest to get the cinnamon and the recipe. Go to the galley and use everything according to the recipe on the cooking pot. When you regain consciousness (that's a hell of a recipe you've found!) use the business card Stan gave you on the fire, then get some more gunpowder. I won't tell you what to do next, but it involves a sharp report and a short flight!

As the magical glow from the Shrine fades and dies, these final words of advice are heard faintly, 'There are bold adventurers and there are old adventurers – but there are no old, bold adventurers'. CU

If you have a problem, a notice for the Board, or perhaps you have a piece of scandal which you wish to whisper in the Inn, write to Tony Gill at The Troll's Head Inn, CU Amiga, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU

WAR IN THE GULF COMPO

WIN! WIN! WIN!

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RULES OF ENTRY

1. No matter how much they want to keep it, Dan, Jon and the rest of the CU AMIGA crew are barred from entry, as are all employees of EMAP Images and Empire Software.
2. The Editor's decision is final and no correspondence will be entered into.
3. Results will be published in a future issue of CU AMIGA.
4. Closing date for entries is 1st August 1993.
5. Er, that's it.

10 COPIES EACH OF WAR IN THE GULF, PACIFIC ISLANDS AND TEAM YANKEE

Elsewhere in this issue, you'll find a review of Empire Software's new tank game, *War In The Gulf*. This stunning new battlefield tank sim puts you in command of four tank units, simultaneously controlling 16 different vehicles through a unique split screen control system. Set in the late 1990s, the Iraqi Republican Guard have overrun the oilfields of Northern Kuwait. It's up to your crack unit of M1 Abrams tanks to put an end to this incursion of Kuwaiti sovereign territory and send Saddam's boys packing once and for all. Featuring 25 different battle scenarios, the game uses a 3D mix of bitmap and vector graphics to heighten the on-screen action and is, by all accounts, a cracking game.

To help celebrate the launch of *War in the Gulf*, those nice guys and gals at Empire have kindly donated an authentic replica of a Field Radio. Not only is it an exact copy of the original machine, but this one comes equipped with three band radio, too. And as if that wasn't enough, we've also got 10 runner-up prizes consisting of copies of War In The Gulf and its two companion games, *Pacific Islands* and *Team Yankee*.

So, how can you get your mitts on such a marvellous prize? Easy. Simply read the multiple choice questions on your right, tick which answers you think are correct and send the entry form to: CU AMIGA, 30-32 Farringdon Lane, London, EC1R 3AU. Entries to arrive before 1st August 1993.

WAR IN THE GULF COMPETITION

Okay, if you've got this far down the page, you must want to win the Field Radio, so let's get on with the questions.

1. Who was the Commander-in-Chief of the Allied forces during Operation Desert Storm.
   - ☐ A. General 'Stormin' Norman' Schwarzkopf
   - ☐ B. Colonel Cathcart
   - ☐ C. George Bush

2. When did the Gulf War take place?
   - ☐ A. 1991
   - ☐ B. 1992
   - ☐ C. 1988

3. Who actually won?
   - ☐ A. The Glorious and All-Conquering Coalition Forces
   - ☐ B. The Glorious and All-Conquering Islamic Republic of Iraq
   - ☐ C. No-one wins at war, dummy!

And that's it. Now cut this entry form out, and send it to CU Amiga at the address on your left. If, by chance, you'd like to know more about Empire's forthcoming releases, why not tick this box? ☐

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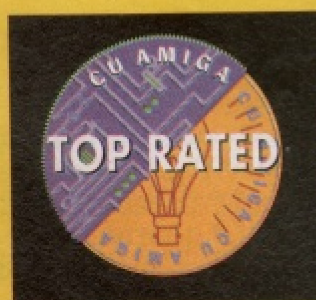
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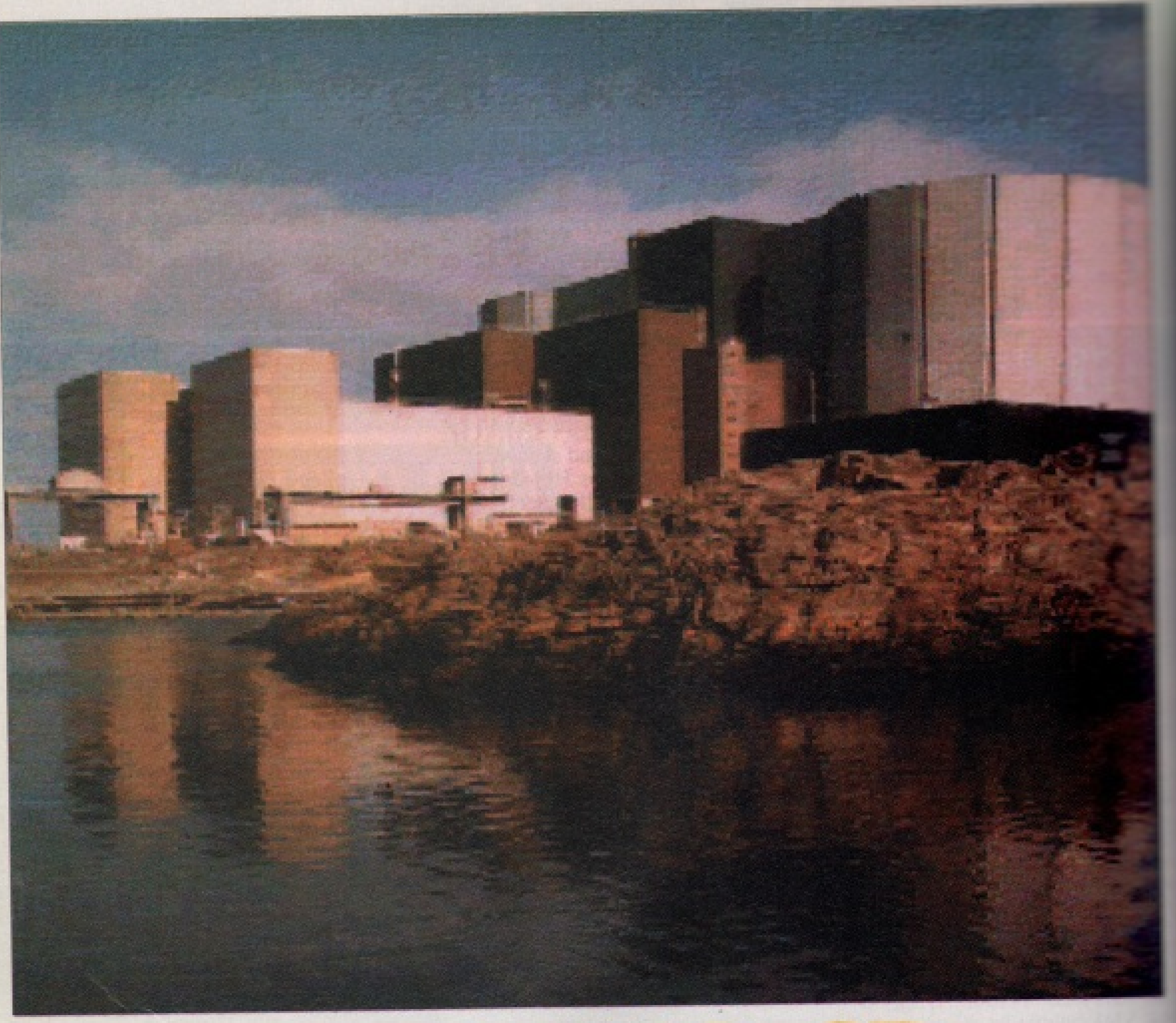
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GET SERIOUS

CU's team of technical experts take you through this month's new arrivals.



The CU AMIGA top rated accolade for non-games products scoring over 90%. They will definitely be worth the money and are likely to act as a benchmark for future releases.



PANDORA'S CD

Clip art discs and sound banks are ten-a-penny on the CDTV, so in an attempt to grab our attention Optonica have produced a multimedia reference CD for less than a fiver.

With such a low price you'd be forgiven for thinking what you're getting is a load of old tat. The aim of the disc is to give you a worthwhile database of colour pictures and sound effects to use in multimedia presentations.

The picture files are nothing outstanding, with the usual crop of buildings and business shots which fall well short of being original. This is all very well if you're producing some sort of corporate promotion, but face it, if you're doing one of those you've probably got the cash to get hold of some decent shots.

To give you an idea on how your finished article could look there are a number of demonstration files. The definite low-point of these disks has to be the tourist information briefing on Milton Keynes. It hardly ranks alongside Alexandria and Delhi when it comes to the top 1000 interesting cities in the world. Close behind that comes your guide to safety in a nuclear power station. Come on, even if it is a cheap disk there have got to be several million more interesting things to include on a CD.



If you actually intend to make use of clip art or sounds, a fiver isn't much to spend. However, if you want to impress your mates with a multimedia extravaganza, this is probably the worst disc you could use.

Available from: Optonica Ltd, 1 The Terrace, High Street, Lutterworth, Leicestershire, LE17 4BA. Price: £4.99

70%

WESTERN MOVIES

Ride 'em cowboy, and other Wild West expressions. *Western Movies* is a collection of 2,300 sprite frames and backdrops. The two-disk set is presented as a complete cowboy film construction kit.

Instead of thousands of IFF files, the sprites come in banks, saved as full screen animations. The idea is that you load the animations into *DPaint III* or *IV*, then cut out the sprites and save them as anim brushes. You could then use them in just about any animation package, such as *Deluxe Video III*, *The Director 2.0*, *MovieSetter* and so on.

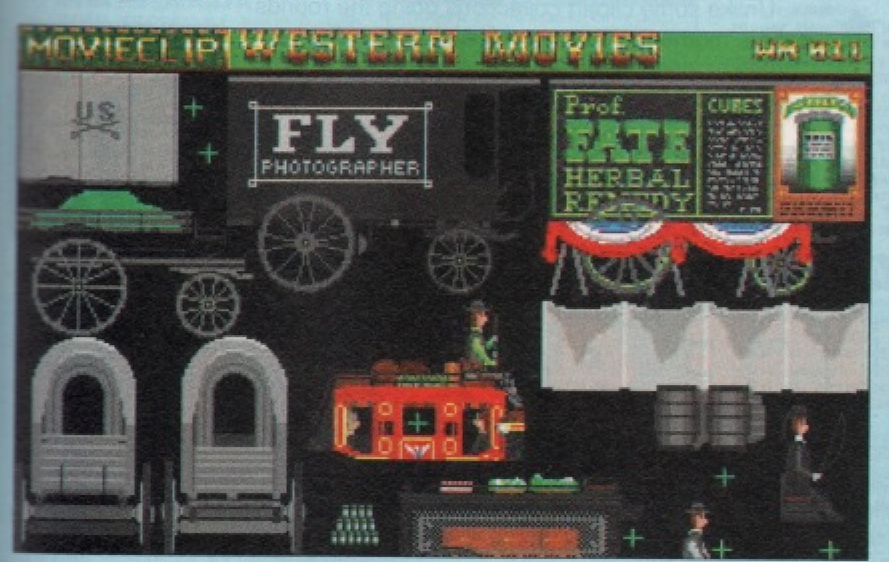
Most of the sprites are horses, cowboys and Indians. Shoot outs account for a lot of animations, and there are also simple frames of characters walking and riding. Unfortunately, the figures are hopelessly drawn, with a very amateur look about them, both in their still and animated forms. The bloomer-flashing dancing girls are a hoot, with their telescopic matchstick legs! In contrast, the horses are surprisingly well animated. There's also a decent buffalo sprite in there somewhere.

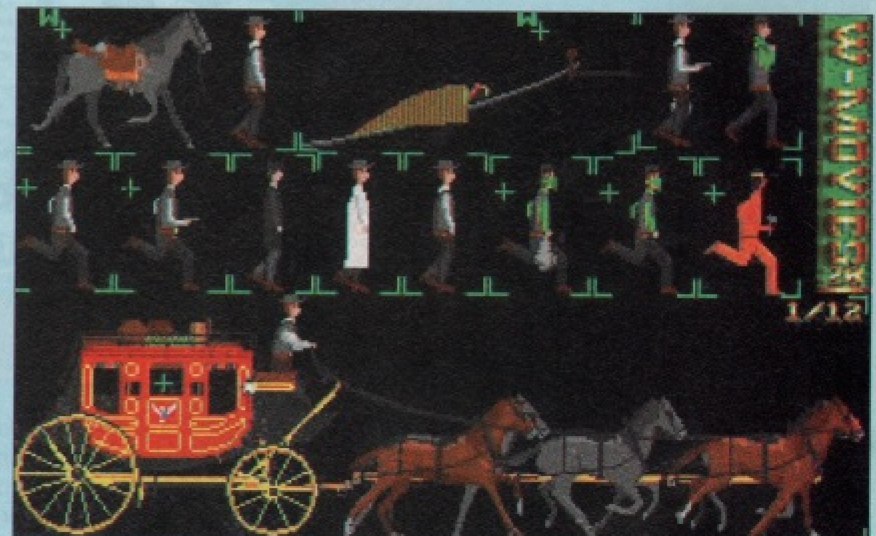
The other half of the package is the backgrounds. These are mostly your standard cowboy bars, banks and hotels. It's face-on 2D graphics all the way with these. Windows are square, pillars are straight, and all the planks are perfectly painted and nailed together. Frankly, it's all rather unconvincing. There is one decent backdrop – what looks like a fractal generated mountain scene. It's a shame the rest are so far behind.

Unless you wanted to create comically bad animations, the standard of most of the material here is far too low to be worthwhile. Anyone writing a cowboy shoot 'em up would find plenty of suitable material, but you couldn't use any of the characters in a commercial release without becoming a laughing stock. Its saving grace is its animal sprites, which just about make the package worth investigating.

Available from: Diskotech, Melin-Y-Garth, Builth Wells, Powys. LD4 4AW Tel: 05912 242. Price: £15.00 (including P&P).







CYCLONE

There are more than enough back up utilities available, but very few offer anything other than straight copy modes. *Cyclone*, however, handles just about every aspect of Amiga disk operation imaginable.

It's based on the popular *XCopy 2* and features an enhanced version of that program. To save time copying files there's a Bam copy mode, which scans the disk for used tracks only. Alongside this are a number of disk tools, such as an optimiser, which are very useful.

The next gadget on the option menu is *Xpress*, an extremely handy hard drive back-up utility. Apart from dumping the contents of your hard drive onto floppies, it can also be set to regularly back up only new files, so you don't have to spend hours each week copying your whole disk.

To use the *Cyclone* copy mode, you must first plug the *Cyclone* cartridge into the back of your Amiga then plug a drive into that. This allows the program to copy otherwise uncopyable files.

We found that *Cyclone* had some trouble backing up certain game disks, but for making duplicates of your own files it's unbeatable.

Available from: Siren Software, Wilton House, Bury Road, Radcliffe, Manchester, M26 9UR. Tel: 061 724 7572. Price: £39.99 (including P&P).

80%

PLANT IMAGES

Do you know your Euphorbia charcias from your Taraxacum hamatum? No, neither do we, but we know a picture of a nice flower when we see one, and there are no less than 500 of them in this collection.

A.R.K. have a comprehensive library of full-screen digitised images of all kinds of flowers, available in any combination you choose.

Make your order from the list of available pictures, specify the file format and they'll put them onto disk and send them off to you. Prices vary from one image to another, from 20-60p each, excluding the cost of the disks and post and packing, which of course would vary depending on the order.



Most of the pictures on the disk are of a high enough quality to be incorporated into colour DTP work, as well as computer-based presentations.

Available from: ARK, Corve Farmhouse, Corve Lane, Chale Green, Nr Ventnor, Isle of Wight, PO38 2LA. Tel: 0983 551 496 (10am-6pm week days).

75%



»

WORDWORTH CLIPART VOLUMES 3-7

Further to volumes 1 and 2 released about a year ago, Digita have expanded their *Wordworth* clipart collection to seven disks.

The first two disks were taken up with high quality colour cartoons, and heaps of mono logos and symbols. Disks 3 and 4 continue in a similar vein. The cartoons aren't quite up to the standard of the previous disks, but they do have a style all of their own. The symbols include loads of handy little arrows, icons, boxes and logos for letterheads, magazine pages, greetings cards and so on. Volume 5 is devoted to sports, with all kinds of icons and drop-in images. Science and Nature is on Volume 6, covering anatomy, plants, technology and so on. Geography and Transport is Volume 7, including a limited selection of accurate maps, a vast library of international flags.

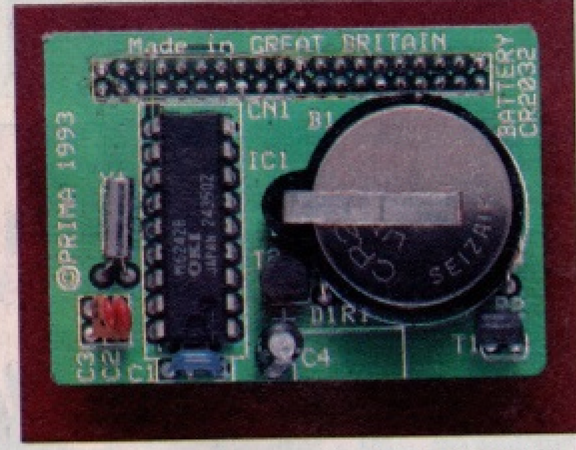
All the images are standard IFF files, usually with extensions to the filenames indicating the number of colours they use. As they're IFF files, you can use them in any graphics or DTP package.

Unlike some clipart collections doing the rounds at the moment, these graphics look very slick, and could be used in anything from PD demos to professional documents.



Available from: Digita International, Black Horse House, Exmouth, EX8 1JL. Tel: 0395 270 273. Price: £14.99 per volume. 86%

A1200 PRIMA CLOCK MODULE



How many times have you listed the contents of a disk, only to be told that all the files were created sometime in the late seventies, be fore your machine was ever invented? What you need is a clock module, such as this one from Prima.

Powered by a lithium battery about the size of a 20 pence piece, it fits into the 40-pin slot on the main board of the 1200. This involves removing the cover of the machine, which will void your warranty. Locating the connector on the board is simple enough with the help of the installation instructions, and then it's just a matter of slotting it into place. You may need to jiggle it around a bit, maybe loosen off the odd screw, but nothing that should tax anyone who can use a screwdriver.

One important point to bear in mind, is that a few A1200s don't have the connector on the board at all, which means there's nowhere to fit the clock. This problem only affects machines built in the Philippines and Malaysia. Check the label on the underside of your machine, which will tell you where it was made.

Available from: First Choice, Unit 8 Armley Park Court, off Cecil Street, Armley, Leeds, LS12 2AE. Tel: 0532 319444. Price: £17.99 80%

MOUSE 400

Most of the Amiga's components are built to withstand years of daily use, but the one exception to the rule is the mouse. You can expect the Commodore mouse to last for about a year, before the buttons stop working, and the rollers get permanently clogged up. Instead of getting another Commodore mouse, which is bound to suffer the same fate in another year's time, why not try a third-party offering, such as Gasteiner's Mouse 400?

Compared to Commodore's rodent, the Mouse 400 is rather petite. It's been designed to fit snugly beneath your middle and forefingers, with a very small main body. In fact it's so small, it's hardly there at all.

At 400 dpi (dots per inch), it's about twice as sensitive as the standard Amiga mouse. In practice, that means you only have to move this one half as far as the Amiga mouse to get the same effect. Even if speed across the screen isn't your main concern, the Mouse 400 would still beat most rivals with its more precise control over short distances. Anyone who uses a mouse with a graphics package will know how important this is, especially when adding fine detail to a high resolution image.

As for the buttons, the left is nearly twice as big as the right and has a grippy ridged surface, especially handy for those who like to eat slimy Chinese takeaways while using their Amigas. The buttons only require the slightest pressure to work, but don't seem oversensitive. There's also a generous two metre-long cable, which might seem excessive, but can be very useful in certain setups.

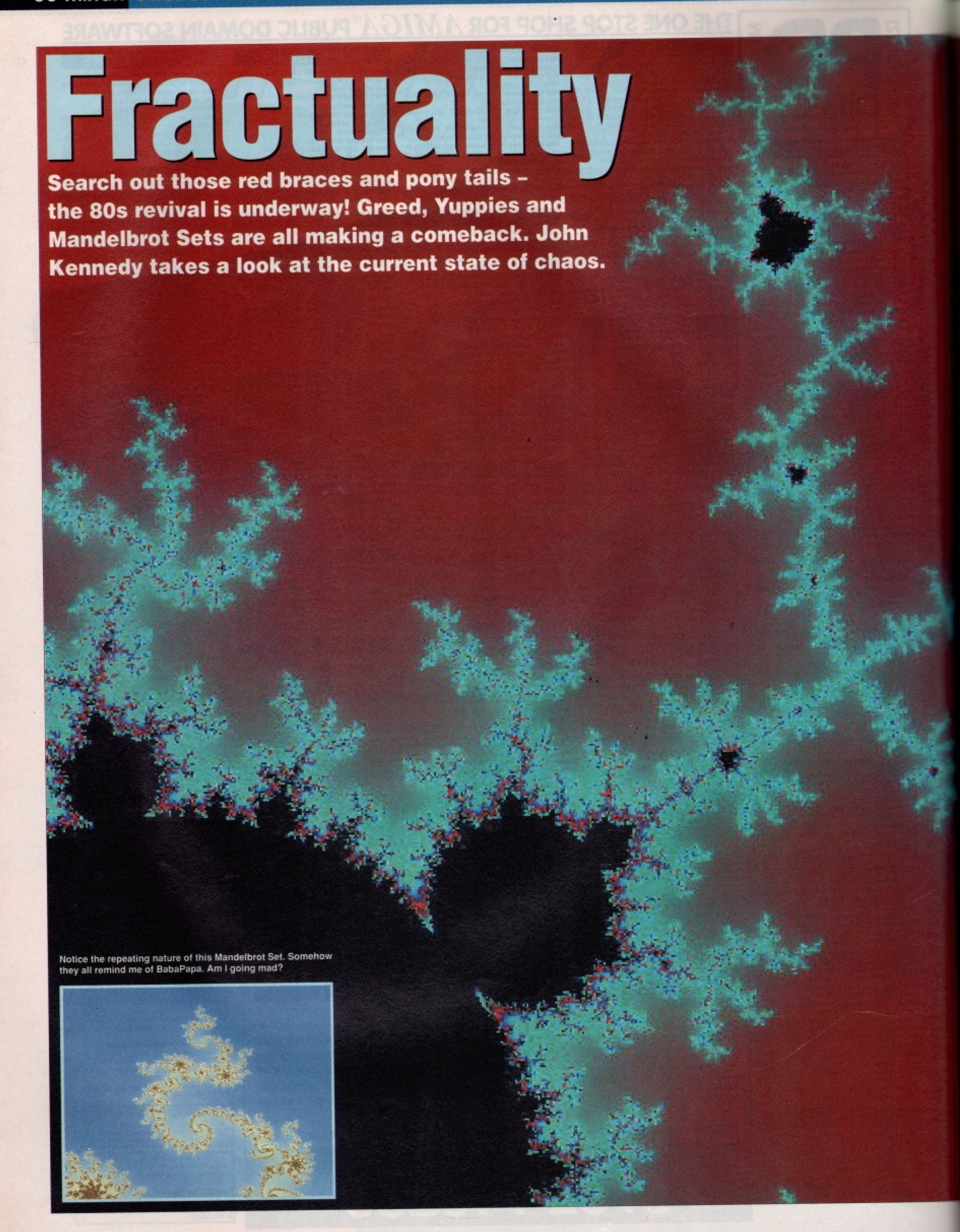
Some could find the Mouse 400 just a bit too small and fiddly. There's not much to get hold of, which means your hand has to form a dome over the top, rather than just resting on its palm. This wouldn't be a problem for those with small hands, but it can become a bit of a pain after long periods of use. On the flip side, it's extremely light, gliding across the desktop with ease. So long as the size isn't a problem, you can't really go wrong with the Mouse 400.



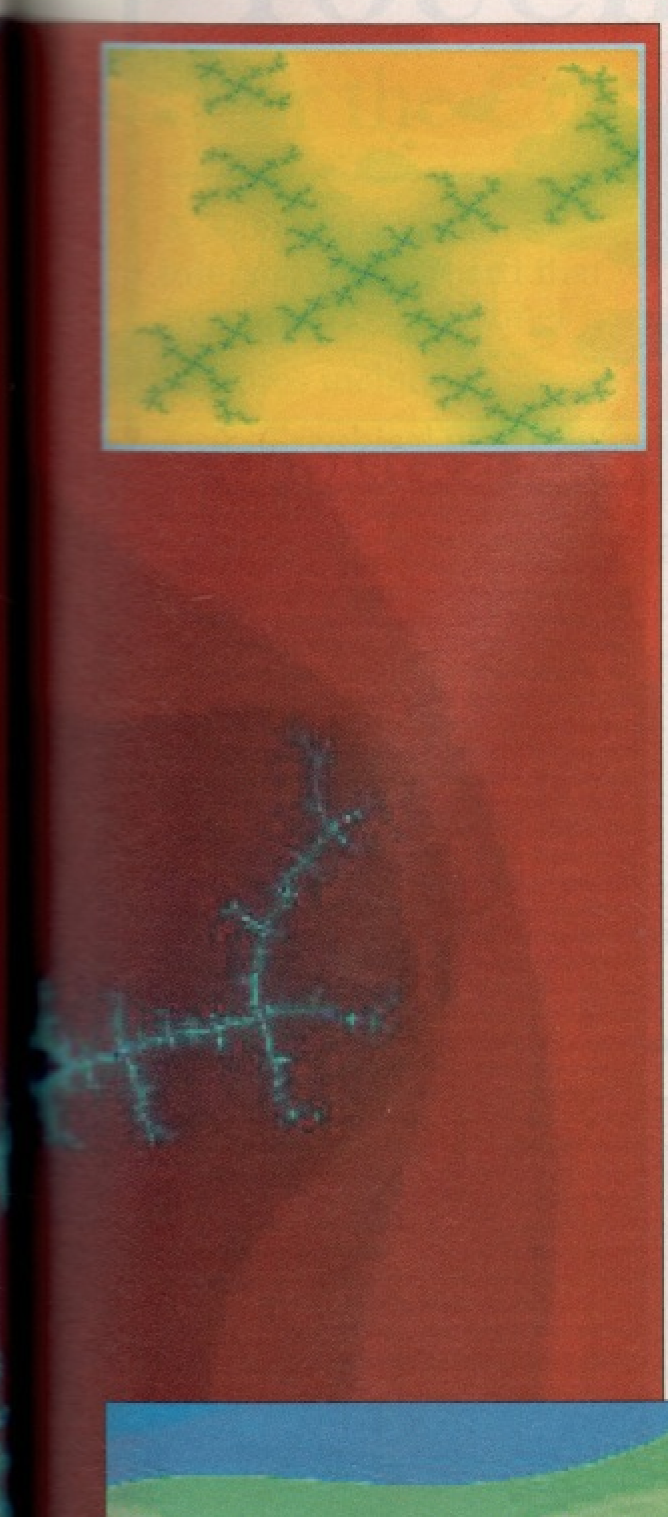
Available from: MicroPACE UK, Unit 10, Perth Trading Estate, Perth Avenue, Slough, Berkshire, SL1 4XX. Tel: 0753 551888. Price: £17. 95. 80%

Fractuality

Search out those red braces and pony tails – the 80s revival is underway! Greed, Yuppies and Mandelbrot Sets are all making a comeback. John Kennedy takes a look at the current state of chaos.



Notice the repeating nature of this Mandelbrot Set. Somehow they all remind me of BabaPapa. Am I going mad?



Just when you thought it was safe to open a computer magazine without seeing pictures of fractals... Yes, the revival is on again with the latest generator coming from home turf. *Fractuality* is the name and generating graphs of iterative functions in the complex plane is the game.

The Mandelbrot Set was the Icon of the 80s. Every school lab had at least one nerd who could create the strange dot-matrixed printouts on demand (I should know – I was that nerd). Then all was deathly quiet as games consoles tempted the kids off the keyboards and onto the four-way directional controlled joypads from Japan.

This was the way it was to remain, with fractals for the people deemed destined for obscurity until the techno music scene dragged it back into business as a video star.

NO MATHS REQUIRED

Generating a fractal image with *Fractuality* is dead easy – you simply click on the button marked 'generate'. After a short while the familiar image appears on screen, and from then on you're on your own.

Zoom in, zoom out, alter the colours, adjust the aspect ratio – every change you make causes the patterns to shift and alter. Because *Fractuality* works down to such precision, you can be sure that after a few zooms the image you get on your screen is unique, and will probably never be seen by anyone else again.

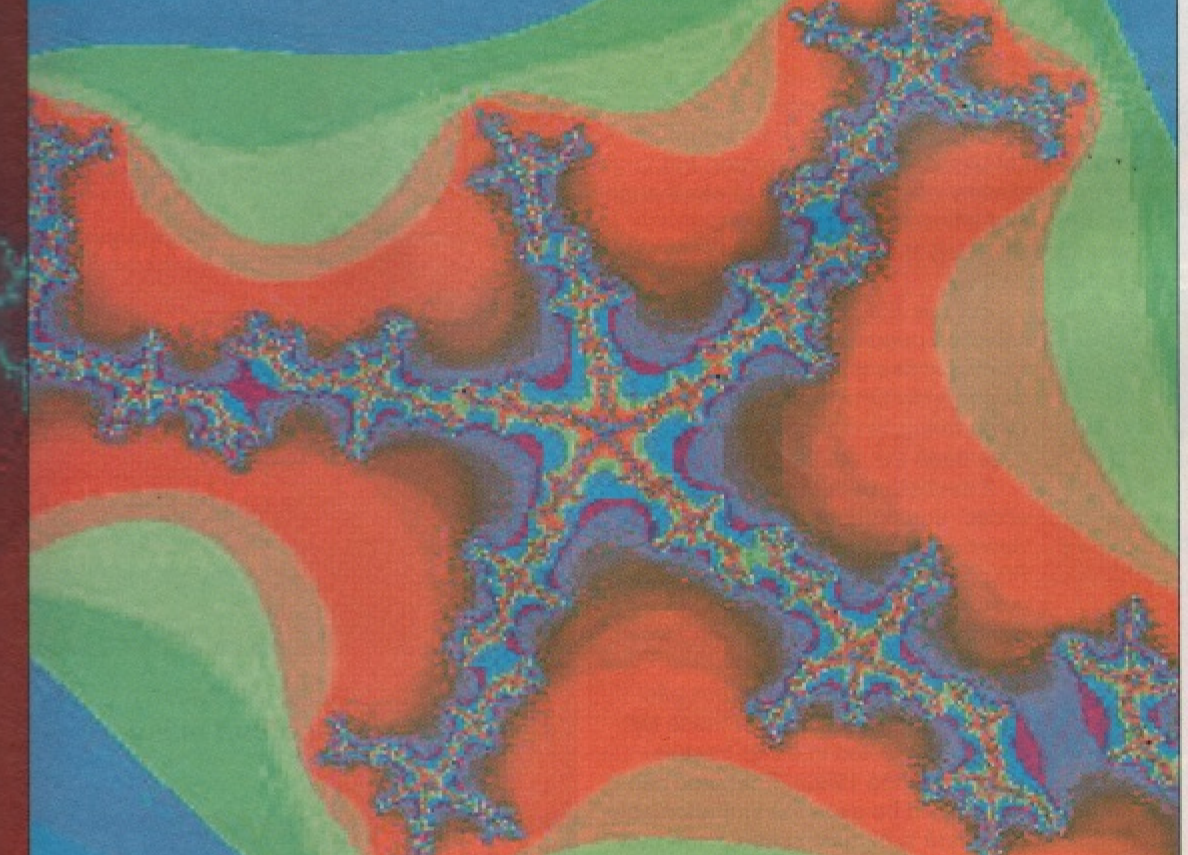
The images are all strangely beautiful, with weird organic spirals and fronds growing in all directions. The more you explore, the stranger the patterns you discover: people have spent years wandering in this inter-dimensional world.

ALL SET

Fractuality deals with two fractal 'sets' – the Mandelbrot Set and the Julia Set. Both sets are generated from very similar mathematical methods, although the Julia images are generally more symmetrical, and contain many repeating self-similar features.

It's a shame that *Fractuality* stopped with these two sets, as many more equally beautiful ones have been discovered over the years. The newer sets could have rekindled interest in those jaded by many years of fractal creation.

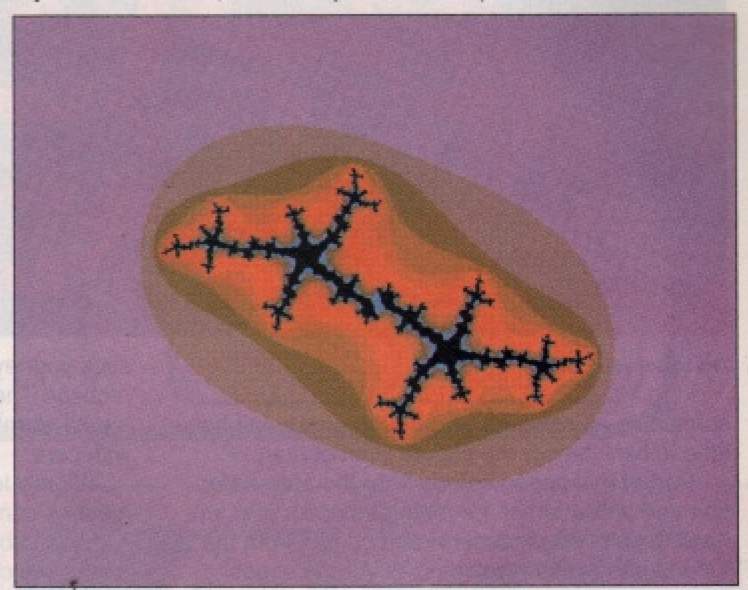
All the mysteries of the universe may be explained by the relationship of complex numbers. Looks like an amoeba to me...



COLOURS

Working internally with 24 bit colour means that the images produced can be tailored to suit all sorts of hardware. Humble A600s can display up to 64 colours, but newer AGA machines get to use as many as 256 colours. It's a shame that neither HAM mode is supported, but the ability to output 24bit IFFs means that an image processing program will generally be able to do this for you. If you happen to have an AVideo 24bit board – also available from HiQ – you'll be able to see the images in real (and imaginary?) colour. Perversely, support for generating images in 2 or 4 colours is provided, and these look stunning when sent to a printer.

Julia Sets traditionally look like splatted insects. But why Julia, and not Sally or Kevin or Stephen Sets?



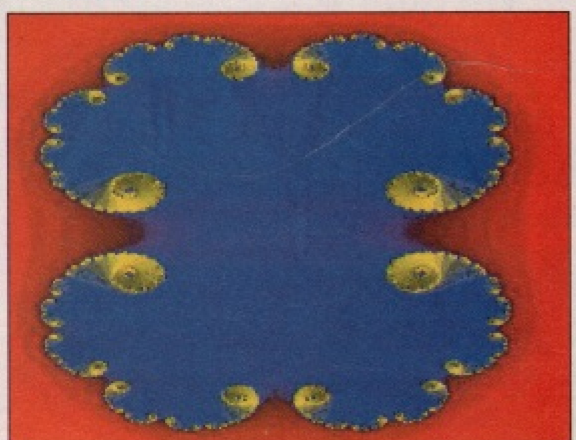
Full control over the palette is provided, and you can load and edit the many examples provided to find the one that best suits your fractal. Controlling the 24 bit colours takes a bit of getting used to, and some better selection options are really needed to make the most of the 16 million plus options.

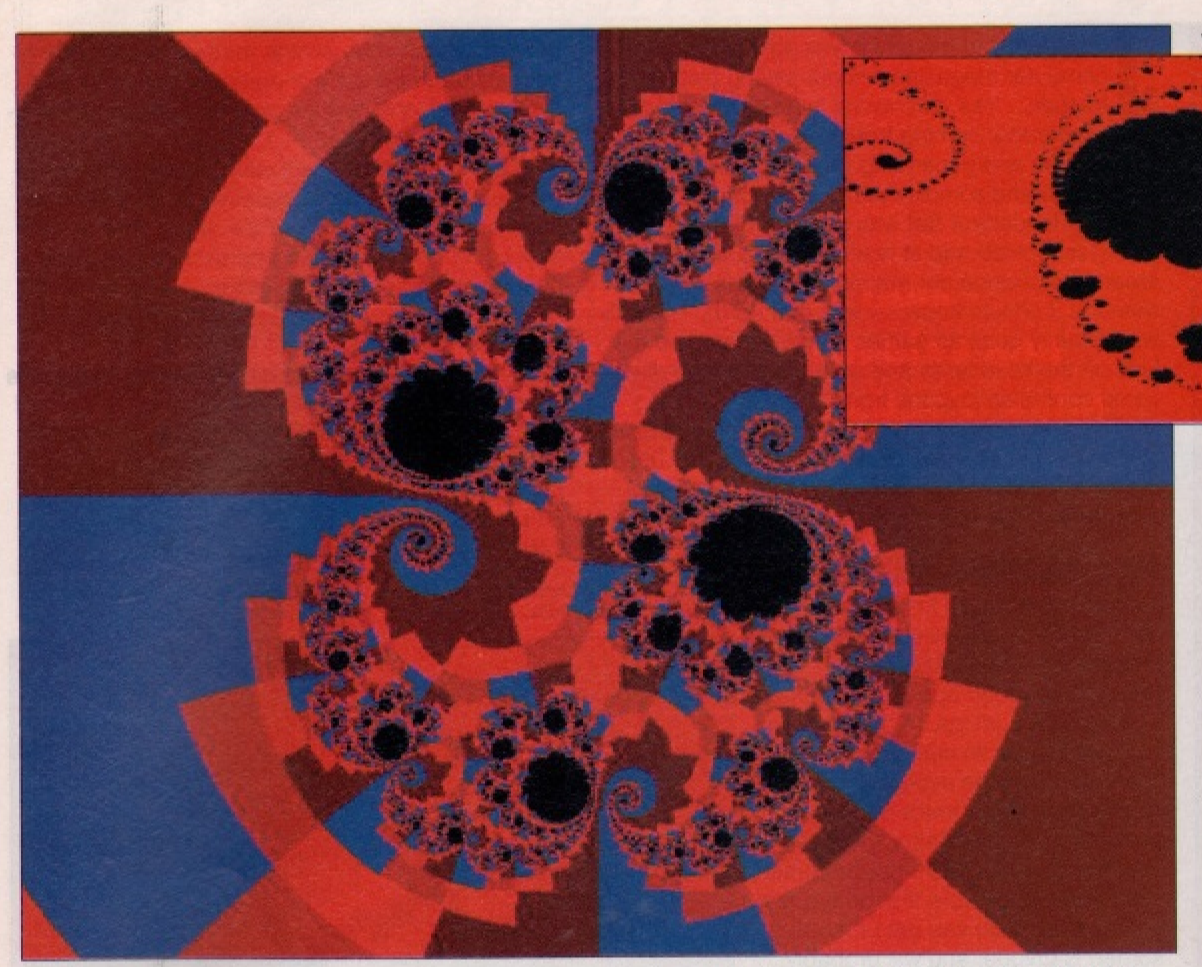
SPEED

Fractuality has been written to be as fast as possible, no matter what your hardware setup. Even with a 68000-based A600, creating full-screen images at shallow depths takes only seconds. With

»

Producing your own CAT scans is simple with *Fractuality*.





..the more you can see.

» The closer you look...

something as powerful as a 68040, you won't have time to blink before the picture is on-screen.

Part of this speed comes from the auto-detection and utilisation of the main processor and any floating point co-processor, part comes from the unique grid system which gives you an almost immediate feel as to how the image is going to turn out.

The use of memory is kept to a minimum, so no matter what Amiga you have you can be sure of generating some amazing pictures. Of course, for the ultimate in resolution you'll have to bump up the number of iterations used in the calculations for each pixel, and sooner or later you'll reach a set which takes just too long to calculate no matter how many MIPS your Amiga is capable of.

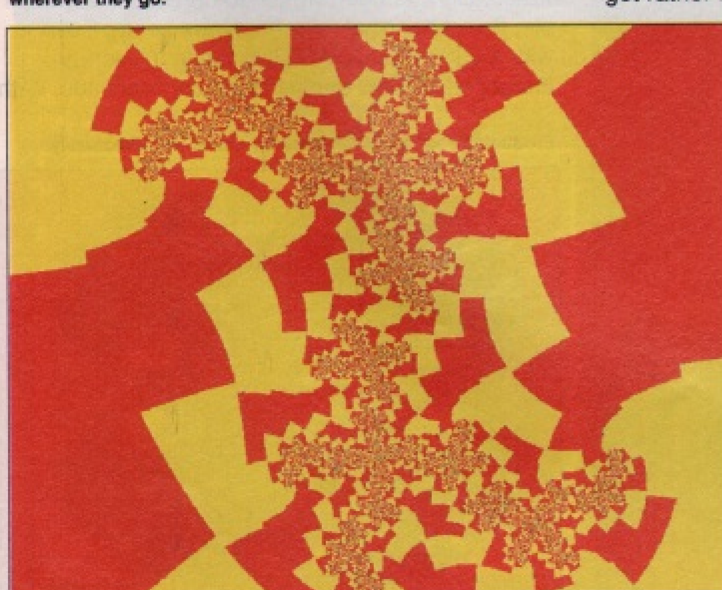
MOVING EXPERIENCE

Colour cycling is an evil thing when combined with fractal generated pictures. Because of the way in which the colours are chosen, selecting the cycle button from the palette requestor will immediately suck your eyeballs out of your head and into the monitor. These are the sorts of images which carry health warnings, so show them at your next rave with care.

Slightly less hypnotic, but equally addictive, animations can be created by zooming into the sets with total abandon. Simply mark start and end points (which can be stored to disk if required), clear some disk space (preferably on a large hard-disk) and then start rendering.

At this point it's usually a good idea to go to bed, and in the morning you can load your thousands of images into *Deluxe Paint* for conversion into animation format. *Fractuality* should really create the ANIM itself, as waiting for *DPaint* to process hundreds of frames can take an incredibly long time.

The Julia Set are a gang of women bent on causing chaos wherever they go.



CONCLUSION

Whilst *Fractuality* is undeniably good, there are some features lacking before it can be awarded the accolade of ultimate fractal generator. For starters, it definitely needs more sets. Even though there are a near infinite number of possible images, unfortunately they eventually all start to get rather repetitive.

Further, the colour and palette selection needs to be tidied up. The manual states the user-interface will be strangely familiar to users of *Art Department*, and to be honest it should have been even more familiar.

If the better ANIM support was also added, and perhaps a few alternative viewing options (such as that from the PD program *MandelMountains*) or output formats (a fractal *Imagine 3D* object anyone?) then *Fractuality* would be close to perfect.

Nevertheless, as it is, *Fractuality* represents an excellent purchase for anyone interested in either fractals, graphics or the 1980s. For some people, it could be even the first affordable way there is of making use of the new AGA chipset.

WHAT IS A FRACTAL?

Half-way between a one-dimensional line and a two-dimensional plane lies the infinite world of the fractal dimension. Here, objects have jagged edges, and no matter how closely you look at them they remain jaggy.

This form of mathematics has many analogies in the real world. For example, if you set out to calculate the length of the coastline of Ireland, you would reach the interesting conclusion that it is, in fact, infinite. It must be, for the closer you get the bigger it gets. You start by measuring around that headland, then that rock, then a pebble, then a grain of sand - eventually you'll have to give up. A dimensional system was even worked out to describe such features and results in many phenomena having a non-integer number of dimensions.

Working at IBM in the 1970s, Benoit Mandelbrot was looking at iterative (repeating) functions which used imaginary numbers. An imaginary number is one which features the square root of minus one, and although clearly impossible, they are extremely useful in descibing many tricky aspects of the real world which would be too complex to comprehend otherwise including engineering, architecture, nuclear physics and information technology.

Whilst exploring the various Julia Sets produced by these equations, he found a new way to generation images – the Mandelbrot Set. This set is a sort of map of all the possible Julia Sets – for each point in the Mandelbrot Set, a Julia Set exists.

Mandelbrot continued to study fractals, and found many situations where it seemed that Nature was using fractal techniques. You may like to consider how organic objects such as ferns, birds and people are all created from a relatively tiny amount of information repeated over and over again in DNA structures...

HIQ £24.99

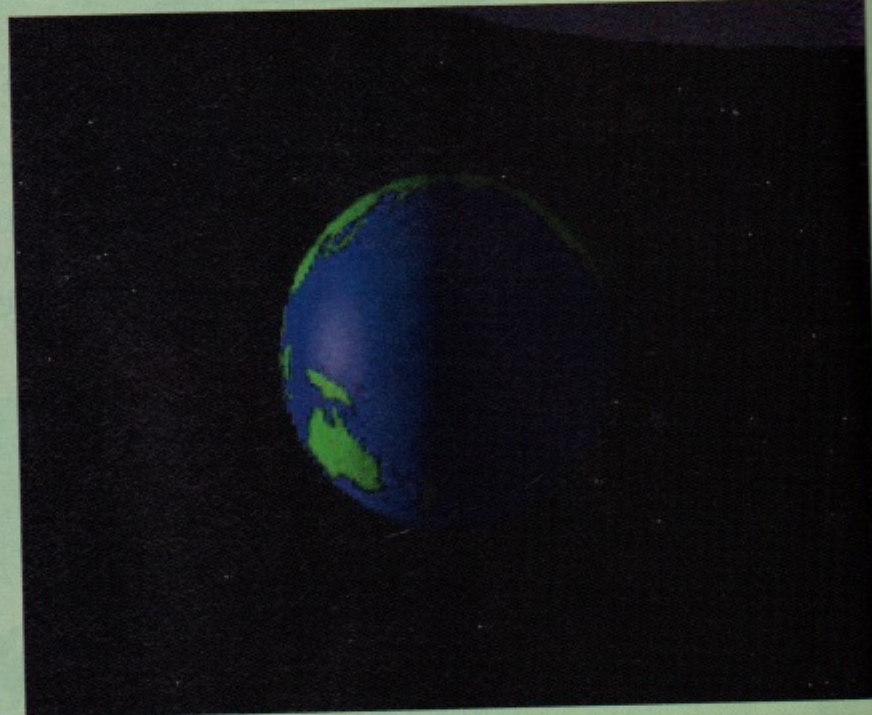
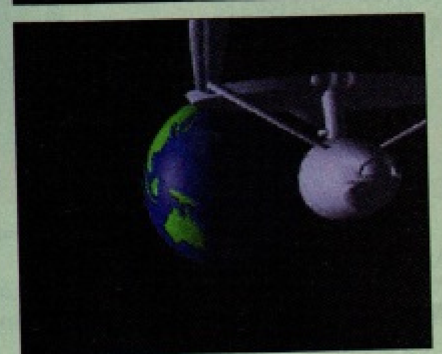
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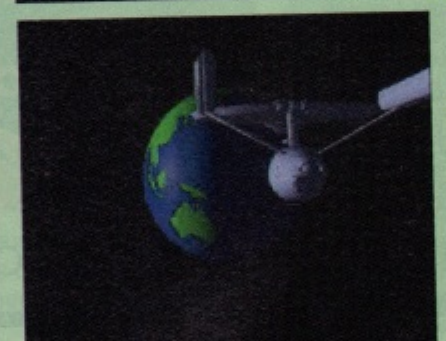
HiQ Ltd, 176 Kenton Lane, Harrow, Middlesex, HA3 8SU. Tel: 081 909 2092.

EASE OF USE	85%
Good button-based user interface.	
VALUE FOR MONEY	84%
It has to be cheap to compete with PD programs.	
EFFECTIVENESS	90%
Excellent images are made possible. Works with all hardware.	
FLEXIBILITY	75%
Rather limited in sets, colours and image sizes.	
INNOVATION	10%
As my mother would say, 'There's nothing new under the sun'.	

"Fractals: you've all seen them – now you can make them."

OVERALL 70%




John Kennedy looks at some animation programs which could save you an absolute fortune in RAM and video equipment.

Animation

One of the most impressive pieces of Amiga software engineering has to be the creation and adoption of the Interchangeable File Format (IFF). Most of the work on this data protocol was done by Electronic Arts way back in 1985, and amongst its successes was the ILBM format (interleaved bitmap) for pictures and the related ANIM format for animations.

ANIM works by sheer cunning – instead of storing the individual pictures as separate entities, it stores only the changes between successive frames. This difference or 'delta' file can itself be reduced by a technique known as run length compression, where columns of similar pixels can be replaced with a single value and a count.

Deluxe Paint is probably the best known ANIM-creation program, as it can create quite complex animations using nothing more than its brush manipulation tools. Image rendered programs such as *Imagine* or *Real 3D* can also produce animations, and with a bit of practice some really professional results can be obtained.

PROBLEMS

Unfortunately, as any *Deluxe Paint* animator will know, there is a major problem when it comes to creating epic Amiga feature films – memory. ANIMs may be compressed, but they still consume memory like it grows on

THE SOFTWARE

AMIGA ANIMATION PLAYER

AAP **is a small program which can display still pictures and replay animations of both ANIM5 and ANIM7 formats. It is designed to be mainly used from the CLI, but operation is very simple.**

To display an animation you need to type something like AAP <filename> or AAP -d <filename> to run it from disk.

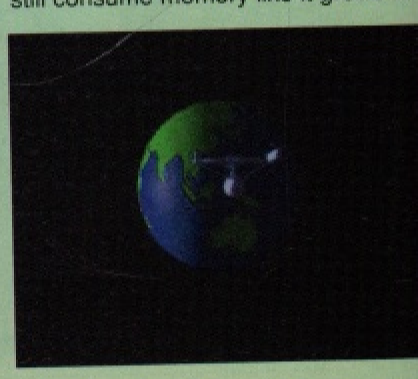
With AAP you can specify animation speeds, or use script files to create mammoth productions comprising various pictures and animations.

AMIGA ANIMATION CONVERTOR

In order to create animations of ANIM7 format, you'll need this companion program to *AAP* (both are supplied on the Fred Fish disks). *AAC* can convert an existing ANIM5 into ANIM7, or work with a list of still frames – for example, those created with *Imagine*. You may specify a longword or shortword file, depending on whether you have a 68030 or better processor.

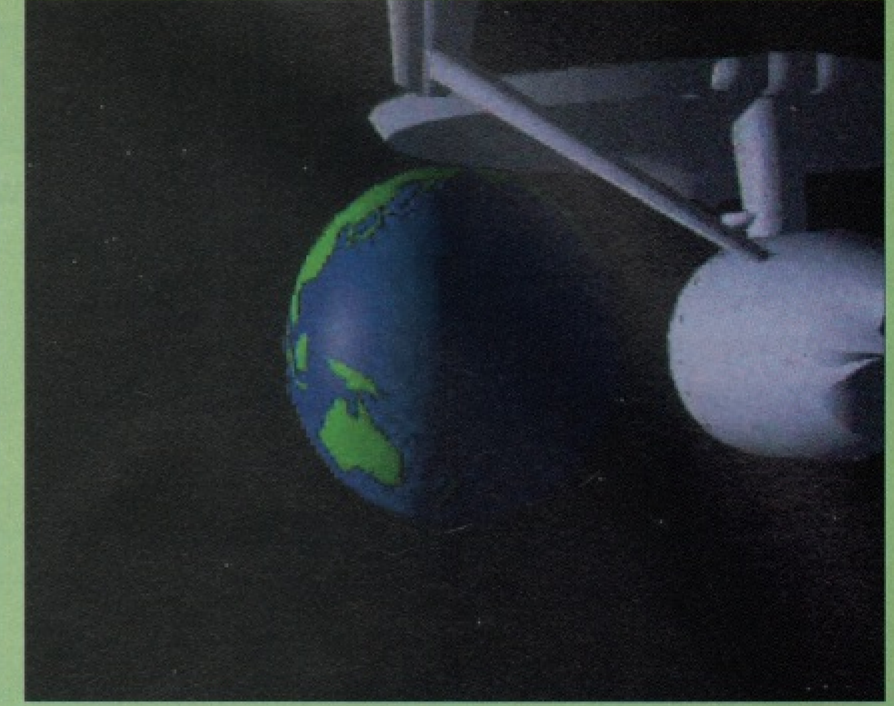
Before *AAC* I used *Deluxe Paint* to convert a sequence of stills into an animation, but *AAC* is a lot faster, and also supports different colour palettes, which means non-HAM (for example, 32) colour animations look a heck of a lot better.





Because there is very little difference between any two frames, the delta files will be small.



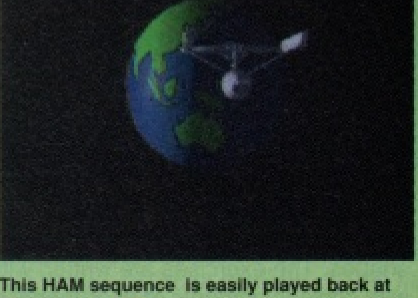












This HAM sequence is easily played back at 25 fps on an 030 system, and at a reasonable rate on a 68000.

Formats

trees. When you start dabbling with HAM or HAM8 graphics modes, you need to put your accountant on danger money – stocking up on the little black SIMMs, ZIPs and DIPs isn't cheap.

Then there is the problem of playback rate. *Deluxe Paint* is a great program, but it can't replay animations terribly quickly – if you played one back to a TV professional they'd laugh you out of the studio before you could ask to borrow a frame-by-frame video deck.

In the world of television, frames change 25 times a second and *DPaint* just isn't up to the challenge. Another snag – *DPaint* needs a fixed palette for the entire animation which can be a real damper on picture quality.

There are various stand-alone animation replay programs in the public domain, but one of the most interesting in a long time has just appeared courtesy of Wolfgang Hofer. *AAP* – the *AmigaAnimPlayer* – has several attractions, not the least being the creation of an entirely new ANIM format.

The standard until recently has been ANIM5, the format supported by *DPaint* and nearly every other program. There are snags to this format – it doesn't always take advantage of either the new AGA modes or the advanced features of later additions to Motorola's processor family (the 68020, 68030 and 68040 now present in the various new Amigas) and full 32 bit RAM. The Amiga world was waiting.

ANIM7

Wolfgang's *ANIM7* – although not a true IFF standard (yet) – has been specially designed to work with 68030 and above machines, and as a result it can really shift data. Even on a 68000 rates of between 10 and 20 frames per second are possible which can look very impressive. With a new Amiga 4000 the images really fly onto the screen.

In fact, *ANIM7* is so good that animation direct from hard disk is possible. Due to sunspot activity, my A4000 has temporarily died leaving me with a 3Mb A500 and GVP hard drive. Yet I can still play back a 1000+ frame wireframe animation created with *Imagine* fast enough to blow any passing Mega CD users' minds. Even a HAM animation ran at about the same rate from disk as from memory.

It all means that when I get the A4000 back I'll be able to render a good few full-colour five minute animations ready for direct recording on domestic video recorders. There's nothing so good at satisfying that old question 'Yes, but what does your computer actually do?' than sticking on a videotape of your own film *BladeRunner II – The Amiga Cut*.

CONCLUSION

The *ANIM7* format seems doomed to a temporary existence – ASDG have started using *ANIM8* – but it has one distinct advantage in that the creator and the player are both freely available in the public domain. Contact your local PD library for more info. CU









Educational Software

Mark Patterson goes back to school with a pair of releases from Europress.

ADI JUNIOR READING 4/5

EUROPRESS £25.99 TEL: 0625 859333



The latest edition in the Europress ADI range is aimed squarely at the pre-schoolers with the aim of giving them a thorough grounding in basic character recognition and sentence structure. In addition to these exercises there are also games which teach children to recognise sounds, tell the time and match shapes. The exercises are written with the national curriculum in mind along with copious amounts of user-friendliness at every step.

If you already have a copy of *ADI Junior Counting* you'll instantly recognise the similarities between it and the latest products in the Junior range. Apart from the main screen, they also share several games, such as the face designer and jigsaws.

On the lighter side there's a driving game, complete with track designer, which pits the player against the game's host, ADI, or another kid (or adult for that matter). Even this has multiple skill levels where the first makes the car almost crash-proof while level three produces a car with minimal road handling.

Although it looks like Europress have cut corners by including some features of *Junior Counting*, the total package puts it at the top of the table in its age range. The activities are made as much fun as possible and the difficulty levels should make it worthwhile even for the most precocious kids.

To teach common letter combinations the child is shown two letters then a picture of an animal. They then have to decided whether or not these letters occur in its name. There's even a sort of computerised Fuzzy Felt where the user has to stick various animals on a landscape.

Almost as importantly, the package is surprisingly easy for computer illiterate parents to use. The help function explains where everything is and what it does. The manual takes care of any other points as well as explaining the benefits of each activity and the differences between the difficulty levels. It is, however, a bit patronising in places and whoever wrote it can't spell disk. That aside it covers every area of the package in great detail.

To keep track of your child's progress as you go along, the package automatically saves their results to disk, so that the next time you load the package they'll be playing on the same level they left off. It also displays a progress report showing how many questions were answered correctly out of the number attempted.



If you want to give your child a head start in reading before they begin attending a play group or other pre-school class you'd certainly be hard pressed to find a better option than this one.

91%

ADI JUNIOR READING 6/7

EUROPRESS £25.99 TEL: 0625 859333





The advanced version of the other *Junior Reading* package utilises the same format as the 4/5 version with the addition of a few new elements.

Where the other acts as a primer, teaching letter sounds and shapes, this one goes much further. Now the user is required to learn more complicated letter sounds and read and spell more complicated words.

For the most part this version is almost identical to its younger brother, and they even share the same manual. The games take on an almost identical format, although the questions are much tougher. This means that if your child genius speeds through that package they won't feel out of place using this one.

All the extras are still there, including *Paint Pot* which is an easy-to-use art package. The amount of tools available depends on the level the application is set to, initially there's only a few line tools, eraser and a box icon to choose from. Cut and paste tools, a symmetry feature and a fill tool can be added.

Again, the package goes into great detail while being easy to use and providing a liberal smattering of games to keep minds with otherwise short attention spans interested.

Despite its ease-of-use, it's essential to keep an adult on hand to help out with the trickier puzzles and the disk swapping between programs as the disk labelling could prove a little confusing for younger children.

Equally as good as the 4/5 version, it's unmatched in its field. The variety of problems to solve and the various games and extra programs make this package extremely absorbing.



Parents need not worry about being shown up either when it comes to using the machine as there is an extremely useful on-line help system. The perfect way to prepare kids for first year education.

91%

wer Computing's innovative 4MB 32-bit memory pansion for the Amiga 1200 is now available. The C1204 includes these many features:

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al-Time Battery Backed Clock - Allows s to be date-stamped with the correct time and date that you know exactly when they were created.

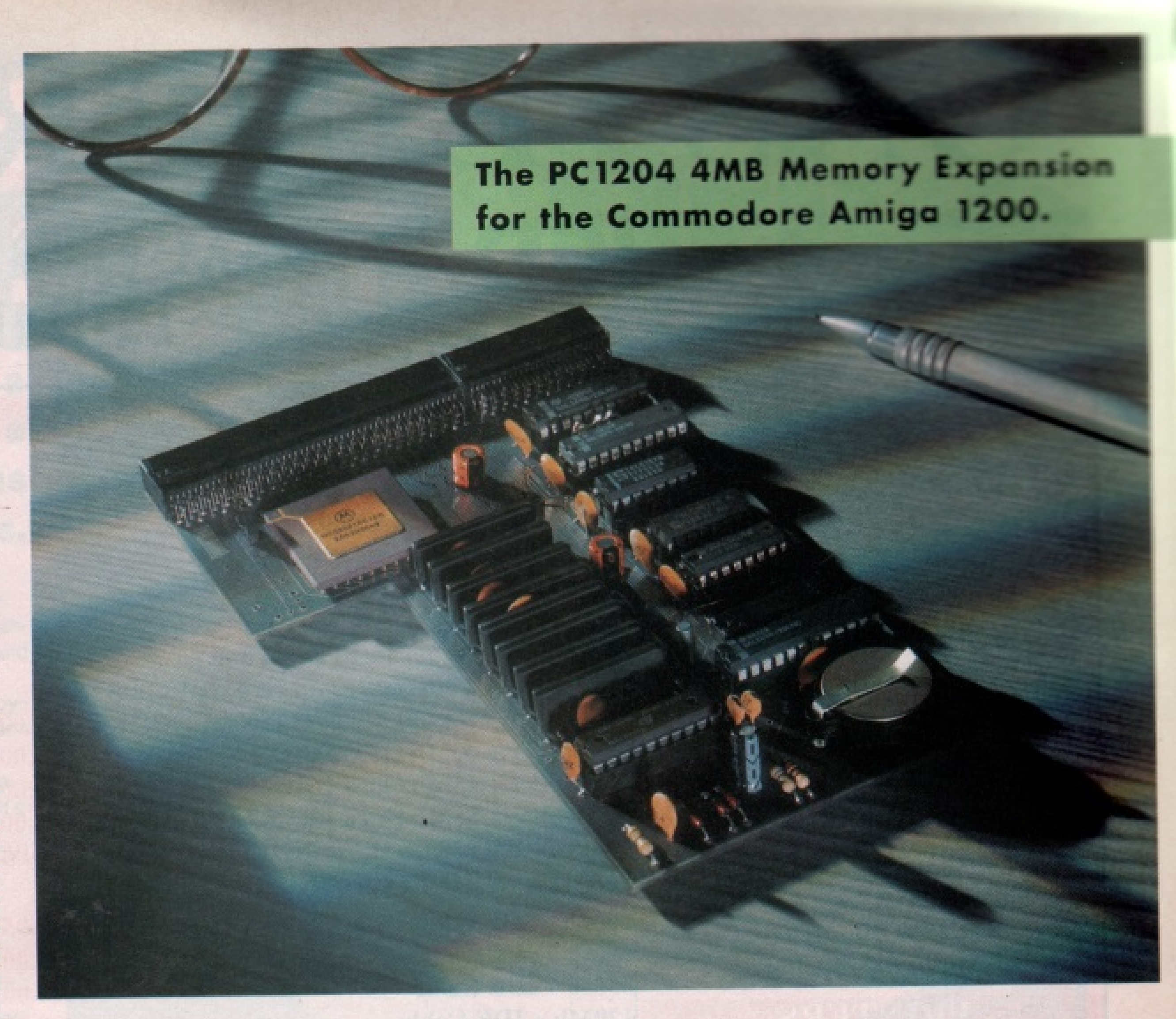
w Power - High density RAMs means low power nsumption.

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Power Computing's XL 1.76MB Drive* for any Commodore Amiga is now available. The XL Drive includes these many features:

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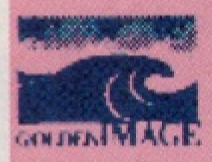


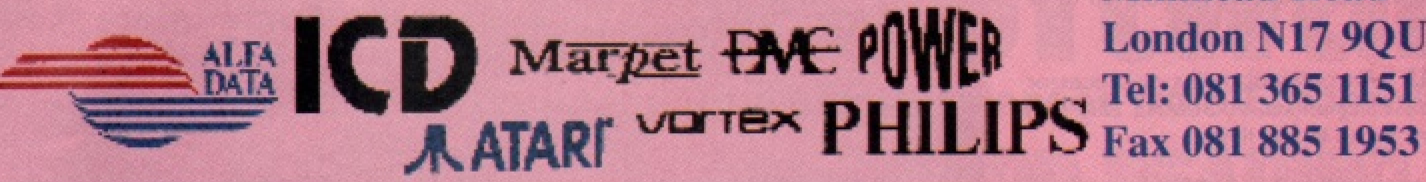
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Power XL Drive

Over a hundred quid for a floppy drive? But it's not a rip-off, it's a bargain as Nick Veitch discovers.

There is not much new in an external floppy drive. We've had fat ones, black ones, wide ones, slim ones, click-preventers, virus-checkers and even double-deckers. Why on earth should someone, least of all Power Computing, who already have an unfeasibly large number of floppy variants, decide to unleash yet another contender on the Amiga population?

Well, astoundingly, they have a very good reason. This is not just your average 3.5" external. It's a high-density device.

MORE DENSE THAN MOST

If you have ever used one of the lesser forms of computer you will know that in at least one area they are superior to the Amiga. The Apple Macintosh, IBM PC and even the Acorn Archimedes come with a high-density floppy drive.

This doesn't mean that the drive is heavier or smaller. It means that you can fit around twice as much information on your disk. By using more precise heads and some cunning electro-mechanics it is possible to read and write to a greater definition on the magnetic surface of the disk. This is a bit unfortunate, because most disks aren't expecting this and can't cope with such densely packed information. You need to use a special High Density disk. The real difference is that the magnetic particles on the disk are more densely packed – like the difference between metal and ferric audio tapes. These disks are identified by the extra hole (like the write-protect hole, but on the other side), the HD symbol on the bottom-left corner and the slightly higher price.

POWER UP

The Power XL drive simply connects to your existing chain of drives. If you already have an external drive it will plug into the back of this (or the old drive will plug into the back of the XL). If you do not yet have an external drive the XL will connect directly to the drive port at the back of your Amiga.

The drive will immediately be available for reading and writing ordinary disks, and for reading HD disks. To be able to write HD disks as well you need to install a software patch onto your bootup disk. Thoughtfully, the Power disk supplied with the drive will do this automatically. It doesn't use the standard Commodore 'Installer' approach, which wouldn't necessarily be a bad thing, except that it doesn't actually tell you what is going on.

My startup-sequence failed to start-up once the patch was installed (not Power's fault – I have a very messy startup). This could have been prevented if I had known that the patch had been installed on the first line of the startup-sequence.

UP AND RUNNING

In use the XL drive is silent and effective. Not only can you store serious amounts of data (1.76 Mb) but it actually has access times faster than those on the standard A4000 high-density drive.



The Power XL Drive may not look much, but it's sturdy and reliable.

The power consumption is low enough to prevent any worries about overloading the system (but remember, the standard power supply should only be used to power one external drive to be safe). In conjunction with *CrossDOS* (as supplied under Workbench 3) PC disks can be formatted as high-density as well. The PC format only enables 1.44 Mb of space, but this does mean that you can use these disks directly in ordinary PCs. This is invaluable when sending off large files like images to output bureaux for printing, or even when transferring files between home and office.

PC disks formatted in this way tend to be slightly more unreliable than normal PC disks, but this is a problem encountered on the A4000 too, so it is not necessarily a fault of the drive.

CONCLUSION

The unit is well-made but won't win any beauty prizes. The top shell is plastic, and not sturdy enough to have too much of a weight on it (a bulging lid can interfere with the mechanism), but at least it has no nasty edges on it.

In use it is disturbingly quiet. It's a good job that the drive-light is quite bright otherwise you'd never know anything was happening. How will blind people know when it has stopped?

The access speed is also slightly faster than on the standard A4000 HD drive, due no doubt to the Power drive's Sony mechanism.

POWER XL DRIVE £129.95

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Power Computing Ltd., Unit 8, Railton Road, Woburn Road Ind. Estate, Kempston, Bedford MK42 7PN. Tel: 0234 843388

EASE OF USE 92%
Just plug in and go. The software could have been more informative.

VALUE FOR MONEY 83%
About the same as you'd pay for an external Mac drive.

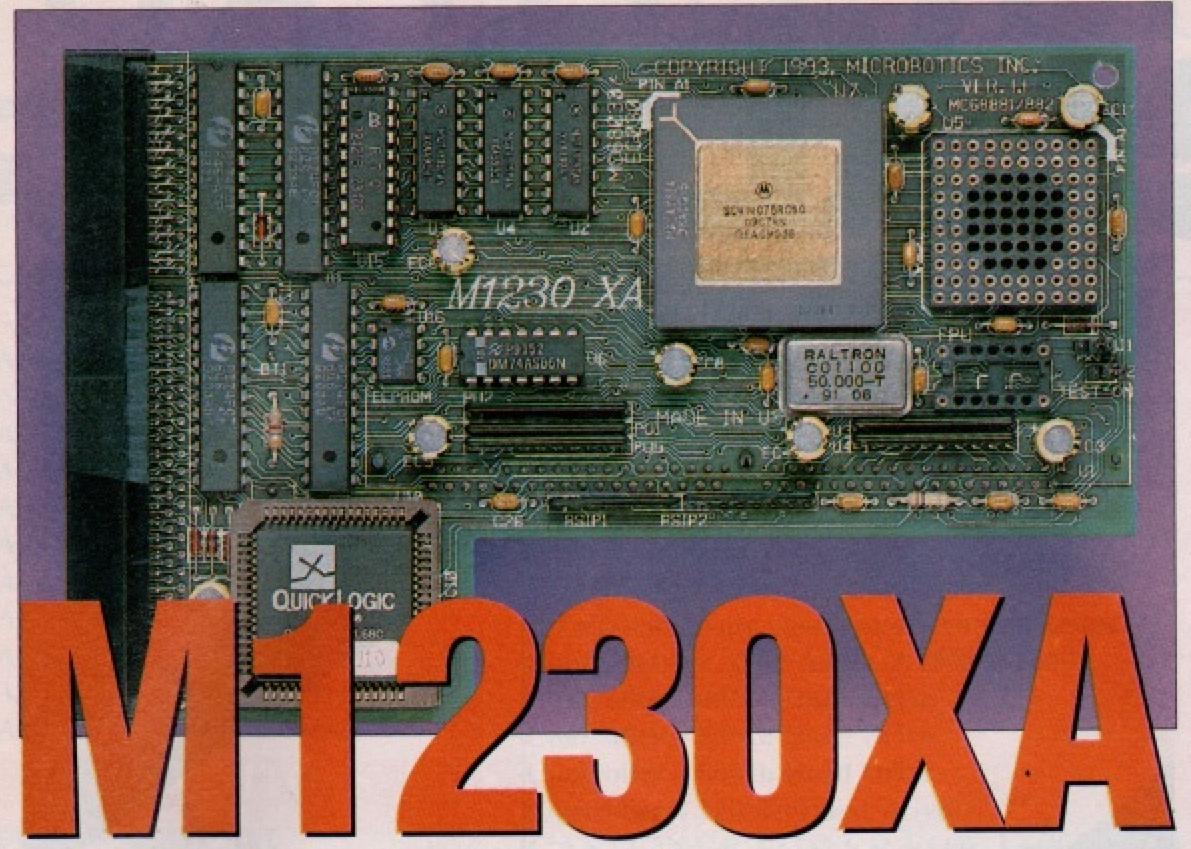
EFFECTIVENESS 90%
It works! PC formatted disks can be unreliable though.

FLEXIBILITY 94%
Just use it like any normal drive.

INNOVATION 88%
Handy for A1200 owners and a great improvement on the American solution.

"Power brings the Amiga into the 90s at last."

OVERALL 88%



M1230XA

Could it be that GVP's A1230 accelerator for the A1200 has been stopped dead in its tracks by a new board from rivals Microbotics? Mat Broomfield finds out.

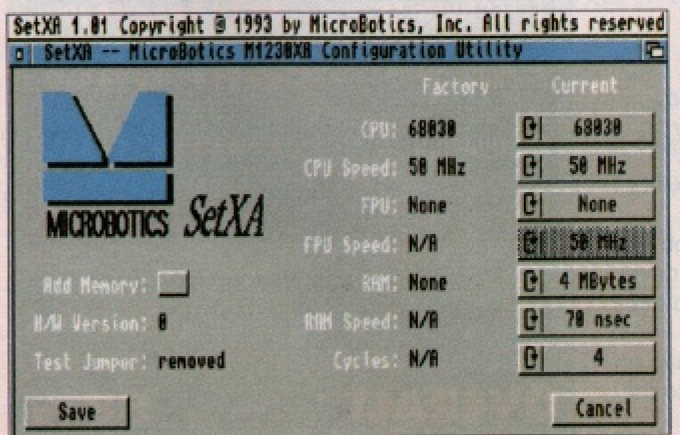
'First and best' is a statement that could accurately be applied to GVP's Amiga hardware releases – until now that is. Although their A1230 accelerator for the A1200 is a tasty piece of kit, barely a month after its release Microbotics are offering us the M1230XA, a board that appears superior in every important respect.

As with just about every expansion board for the 1200, the M1230XA permits you to add expansion RAM in the form of a single 32-bit SIMM module. The breathtaking thing about this board is the amount of extra memory that it can accept – not four, not eight, not 16, not even 32Mb of RAM, but a whacking 128Mb can by added with a single chip. At present, 32Mb SIMMs cost about £1200, so a 128Mb unit is likely to set you back in the region of £5000! Still, if you're doing the kind of work that requires an expansion of this size (most likely 24-bit video or publishing) then chances are you've already spent thousands on your peripheral equipment and will see this as a reasonable expense which can soon be recouped by your work.

FITTING

Not surprisingly, the M1230XA slots into the 1200's trapdoor expansion slot. To read the instructions one would think that this consists of doing no more than opening the trapdoor and slotting the board into place. In fact, the instructions tell you to only touch the board by its edges, yet because of its size, this makes it impossible to fit onto the appropriate edge connector. In fact, having first got rid of any static charge that my body may have held, I had to bodily man-handle the board into place by holding the processor – an action I'm sure is bad for the processor.

The SetXA program needs to be run when you first install the board, and anytime you alter the amount of RAM on it.



A FEW OF MY FAVOURITE THINGS

The M1230XA will add a bit of zip to just about everything you do on your A1200, except playing arcade games. These are some of the things that I really noticed a speed improvement with:

- DPaint 4 AGA – Screen updates and area fills were much faster.
- Battle Isle 93 – Computer takes its turn far quicker.
- Vista Pro 3 – Everything is faster, especially image rendering.
- AdPro – Everything much faster, particularly conversion from 24-bit down to HAM8.
- OctaMED – Was able to use the HQ mode to improve the quality of samples in eight channel mode.
- Pro Page/ Page Stream – Everything is much faster, particularly screen updates, structured drawing and scalable font handling.

The board supports a wide range of machines, including both 68030 and 68EC030 CPUs, either of which may run at clock speeds of 25, 33, 40 or 50 MegaHerz according to your spending power. If you use a 68EC030 processor, then you can also add a 68881 or 68882 maths co-processor (FPU) and these come in 25, 33, 40, 50 and 60MHz varieties.

The board also supports 32-bit RAM with access times between 40 and 100 nanoseconds, and again the type you choose depends upon how much you're prepared to spend. Lower numbers mean faster access and higher prices. Regardless of which of these you are using, the board needs to be told, so that everything will work in harmony. Speaking of which, if you add an FPU which runs at a faster speed than the CPU, you'll also need to add an oscillator (or crystal as they're more commonly known), but this should be supplied with the FPU when you buy it. The crystal simply plugs into a vacant slot on the board.

The M1230XA can accept up to an incredible 128Mb of fast RAM! Unfortunately this must be in the form of a single SIMM module so each time you upgrade, the previous module is wasted unless you can sell it to someone. Furthermore, you can only upgrade in powers of 2 (2, 4, 8, 16, 32, 64 or 128 megs).

What is especially gratifying to see is that the M1230XA also includes a memory management unit (MMU) which further increases its performance and means that hard drive owners can use programs such as GigaMem to turn their drives into virtual RAM.

Once the board has been correctly configured and the installation software run, it sits invisibly to all intents and purposes, speeding up just about every operation of the computer.

The amount of speed increase depends on exactly which permutation of board you chose to buy, but our test unit came with a 68030 CPU, 4Mb of RAM and no FPU. Even so the CPU is about 5.8 times faster than that of a standard A1200 and the additional RAM is 75 per cent faster.

CONCLUSION

The M1230XA is a very nice board indeed. Its staggering RAM capacity means that it can transform your A1200 into an awesome work station. It's fairly easy to install despite its single-page instruction 'manual'. A good range of diagnostic software is also supplied with the board. With this on the market, I would find it very hard to consider GVP's rival offering – this is just too powerful and too flexible. The Power 1204 is worth considering if it is just fast RAM that you are after.



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EASE OF USE 80%
Awkward to fit and harder to remove without risking CPU damage.

VALUE FOR MONEY 90%
Cheaper than GVP's rival product, and more expandable.

EFFECTIVENESS 85%
Not completely auto-configuring, but a dream when you've actually got it configured.

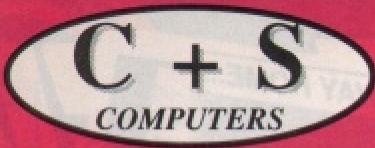
FLEXIBILITY 95%
It should be called 'Accelerator construction kit'! Mix and match components and RAM to your heart's content.

INNOVATION 80%
A re-development of the original MBX board with a few improvements.

'Extremely powerful and flexible – there's no competition.'

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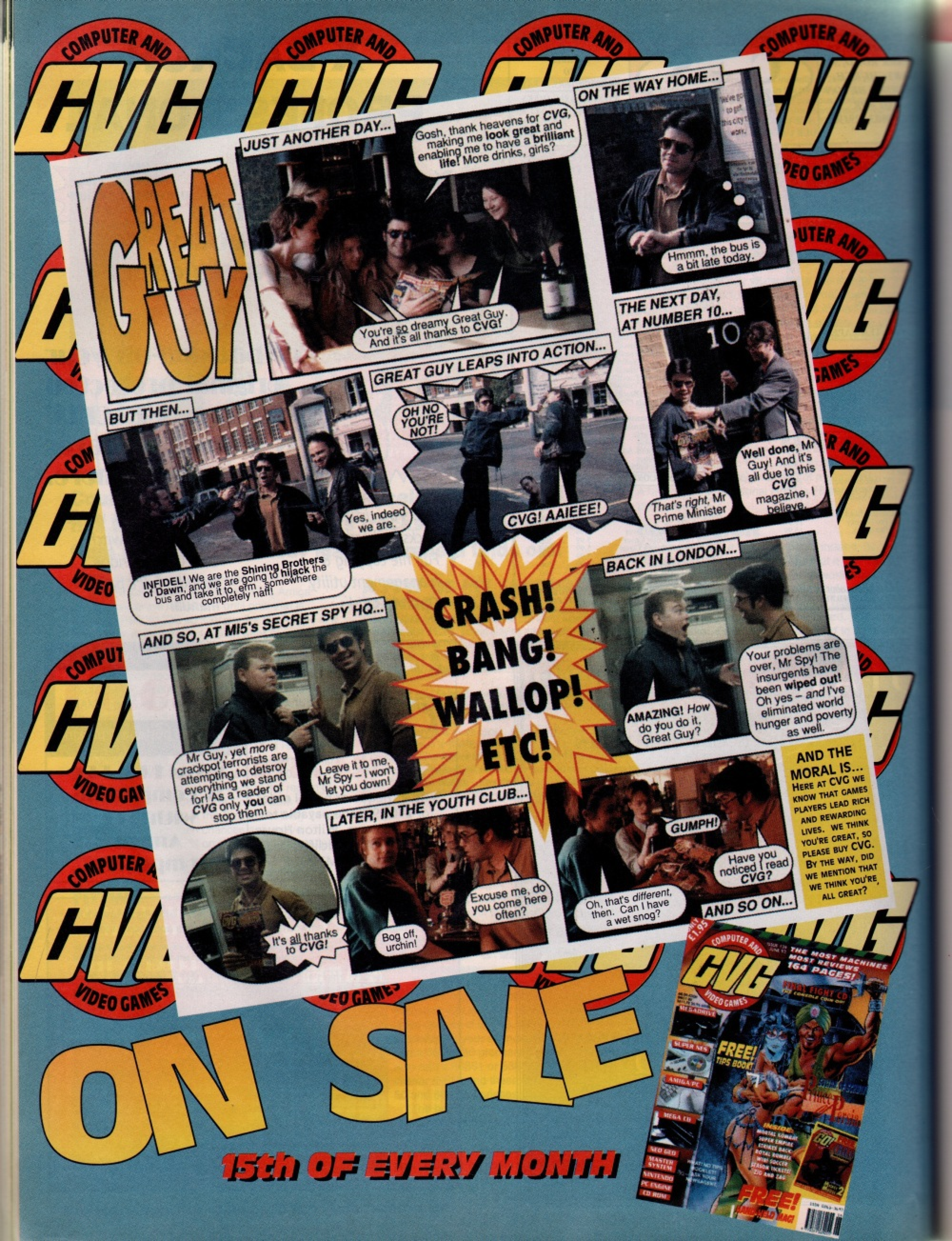
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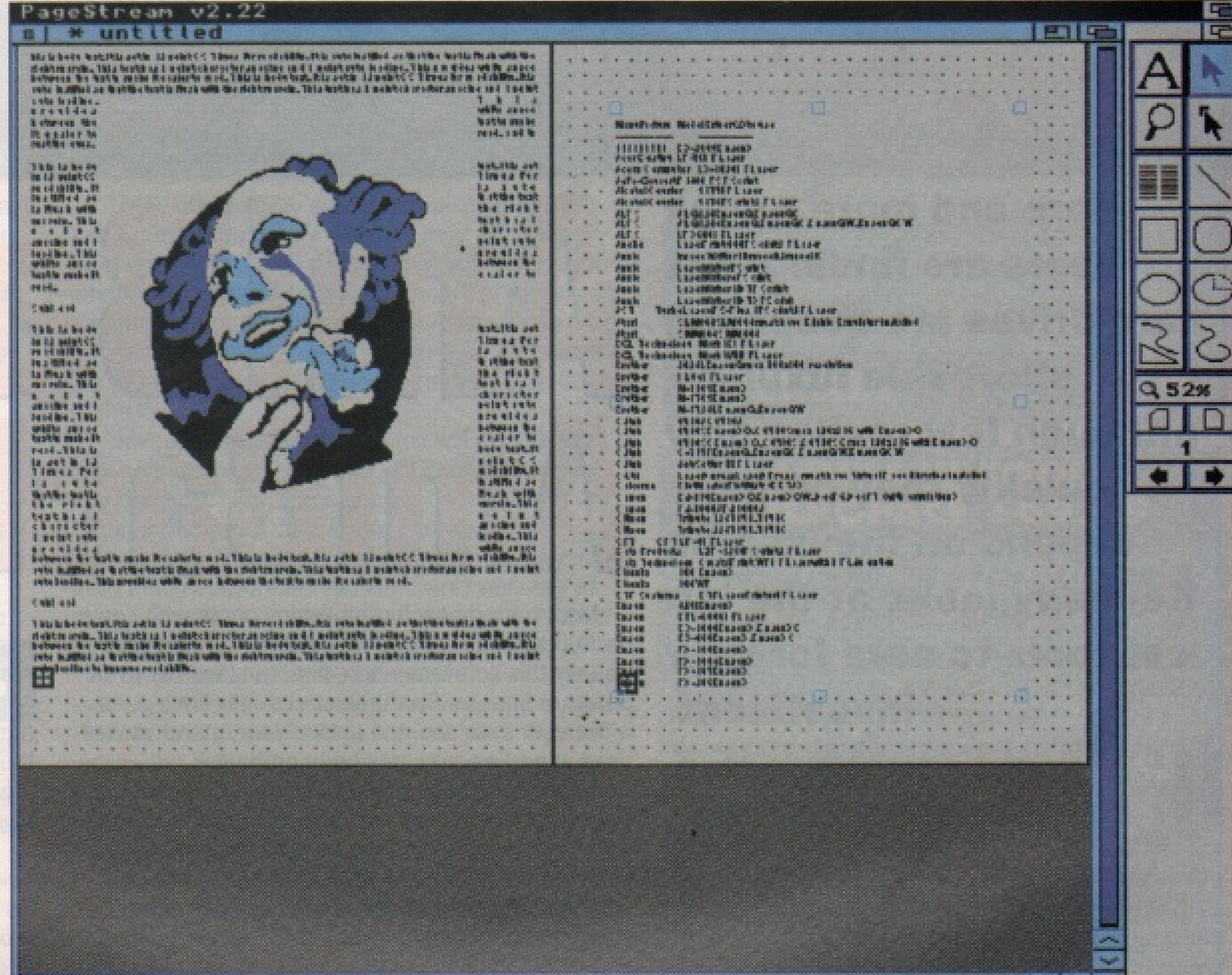


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JUST ANOTHER DAY...
Gosh, thank heavens for CVG, making me look great and enabling me to have a brilliant life! More drinks, girls?
You're so dreamy Great Guy. And it's all thanks to CVG!
ON THE WAY HOME...
Hmmm, the bus is a bit late today.
BUT THEN...
INFIDEL! We are the Shining Brothers of Dawn, and we are going to hijack the bus and take it to, erm, somewhere completely naff!
Yes, indeed we are.
GREAT GUY LEAPS INTO ACTION...
OH NO YOU'RE NOT!
CVG! AAIEEE!
THE NEXT DAY, AT NUMBER 10...
Well done, Mr Guy! And it's all due to this CVG magazine, I believe.
That's right, Mr Prime Minister
AND SO, AT MI5's SECRET SPY HQ...
Mr Guy, yet more crackpot terrorists are attempting to detsroy everything we stand for! As a reader of CVG only you can stop them!
Leave it to me, Mr Spy – I won't let you down!
CRASH! BANG! WALLOP! ETC!
BACK IN LONDON...
AMAZING! How do you do it, Great Guy?
Your problems are over, Mr Spy! The insurgents have been wiped out! Oh yes – and I've eliminated world hunger and poverty as well.
LATER, IN THE YOUTH CLUB...
It's all thanks to CVG!
Excuse me, do you come here often?
Bog off, urchin!
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Have you noticed I read CVG?
Oh, that's different, then. Can I have a wet snog?
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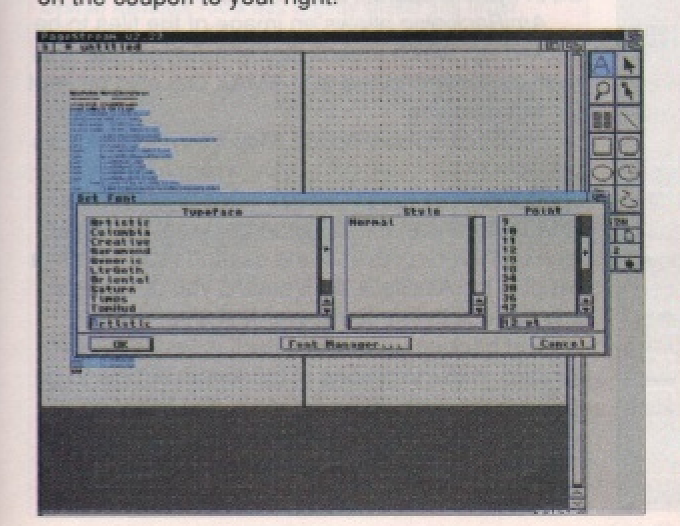




Lurking inside your Amiga is the power to publish newsletters, flyers, programmes, posters, and even complete magazines. All you need is the right software, and the sky's the limit. If you've already taken a sneaky look ahead in this issue, you'll know that we've been testing out a range of DTP packages (turn to page 124 in case you haven't). Now, thanks to Meridian Distribution you can win your own copy of one of them.

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1. Which national newspaper shares its name with the ball of gas at the centre of our solar system?
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2. Name the London street most often associated with newspaper publishing.
....
3. Name the world's best-selling book.
....

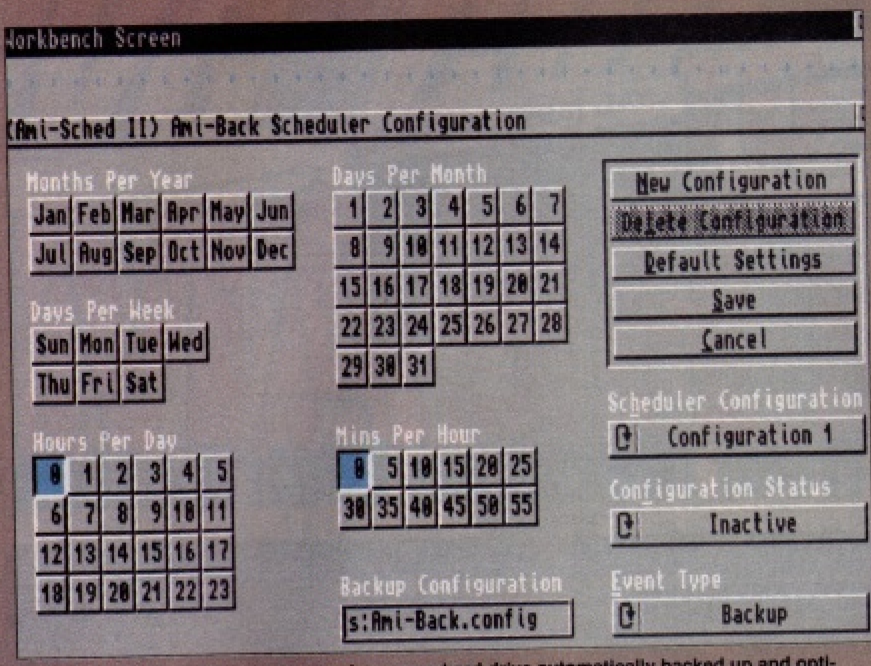
If mine is one of the first 20 correct entries pulled out of the hat, please send a copy of *Pagestream* to:

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With the AmiBack Scheduler you can have your hard drive automatically backed up and optimised whilst you sleep.

Backup in progress. Time Left and Destination Full displays allow visits to the bathroom to be judged perfectly.

AmiBack & AmiBack Tools

More and more Amiga users are finding that hard drives are becoming affordable luxuries, although few realise how quickly they come to depend on them. John Kennedy looks at the latest tools to care for your investment.

Here's a puzzle for you. Try to spot the deliberate mistake in the following statement: computers are machines for processing vast amounts of information reliably, quickly and efficiently.

Did you spot it? Yes, as an Amiga user I knew you wouldn't have any trouble – the word 'reliably' sneaked in there somehow.

Solid state electronic circuits can work for years without a single hitch (unless they belong to me, of course) but when hardware begins to depend on small circles of ferrous-coated plastic spinning at speeds of up to 300rpm, things can occasionally go wrong.

Take floppy disks for example. As new users are quick to find out, popping one out from a disk drive before the Read/Write LED has gone out is a definite no-no. The disk will probably be damaged, resulting in a plethora of irritating error messages next time it's inserted, and at worst you may lose hours of work.

Hard disk drives are also vulnerable. A sharp knock, a power cut, a badly written program or even inexplicable events put down to excessive sun spot activity can cause an error with which AmigaDOS is unable to cope.

AmiBack's backup configuration screen. Notice how you can select more than one device at a time.

Most hard drives for the Amiga come with some backup software hidden in a drawer somewhere. Usually this software works fine, but lacks any real power or finesse. Features are usually limited, as is the user interface and unless your anorak is well used at parties, you may have problems.

So what can you do? Selling the computer, buying a small plot of land and raising pigs is probably the best solution for a stress-free life, but software vendors have different ideas. Take Moonlighter Software for example. They recommend that you should invest in copies of *AmiBack* and *AmiBack Tools*.

REASONS TO BE CHEERFUL

AmiBack opens with a cheery little menu screen providing you with four button gadgets labelled backup, restore, scheduler and quit. Yes, forget the CLI (unless you prefer it), *AmiBack* is as user-friendly as they come.

However, before you can click on backup or restore you really need to use the menus to set some preferences. *AmiBack* offers a great degree of control over how you proceed, including which hard drive partitions need to be saved, whether they need to be backed-up to floppy, file or SCSI-driven tape drive, whether compression is to be used and so on.

You can select to back up the entire device or selected files from normal AmigaDOS hard drives. As long as you permit an index file to be made (not a problem) you can selectively restore any file at a later date.

VIRTUAL REALITY

This is especially useful when you've used several computers. I have several 'virtual hard drives' in my floppy storage box – a copy of all the files I've made on various computers over the years. Using the restore option I can load any file I need within minutes. Of course, it's not as fast as keeping them on a real drive, but as I don't have a 500Mb SCSI system spare it's the next best thing.

AmiBack also allows an image of the files to be backed-up, which means that non-AmigaDOS files such as those created with AMAX can also be kept for safe-keeping.

Finally, a special option allows as many files as possible to be taken off a drive which has developed a serious fault. This '911-Recovery' mode (911 is American for 999) can be a real life-saver, as it can even recover some deleted files. This is a big plus for *AmiBack*, as it means you don't need any other software to recover lost files.

The backing up process itself is very straightforward, with indications of the length of time to go, how full the destination device is and basically all you need to know to be able to judge whether you have time to nip off to the bathroom before the next floppy is due.

This hard drive isn't too badly fragmented, but would still benefit from optimisation.

Once you've backed up your entire disk at least once, *AmiBack*'s extensive filters will ensure you don't duplicate your effort. Using the archive bit already present in each file, subsequent backups can save only those files which have changed. You can also select dates if you prefer – such as, backup only those files altered after 20th June 1993.

DISASTER

You don't know when, you don't how, but a data disaster will strike your system sometime. That's when you need *AmiBack Tools*. The companion package to *AmiBack* contains a complete repair kit, and once more it's in a user-friendly package.

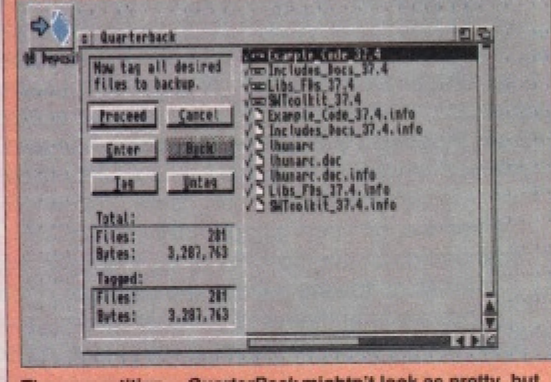
ALTERNATIVE BUYS

Moonlighter Software don't have the market to themselves – they are in direct competition with Central Coast Software and the *Quarterback* series, even going so far as to have similar product names (*AmiBack/QuarterBack* and *AmiBack Tools/QuarterBack Tools*).

***Quarterback*, also available from Micropace, is now into version 5, and although it's gained a better graphical file-structure display, it has lost the destination device capacity bar. *AmiBack* claims to be the faster backup program, but from our trials *Quarterback* seems to have the edge.**

I'm finding it very difficult to make a recommendation of one backup program over another, but in the end the inclusion of *AmiBack*'s recovery and image modes puts it slightly ahead.

However, when it came to a simple recovery test, *AmiBack Tools*' Reviver was considerably faster at finding and re-creating the deleted file. I haven't had any major disk disasters whilst testing the programs, although both performed admirably with relatively simple disk faults. Overall *AmiBack Tools* was slightly slicker and faster, although a rumoured new version of *QuarterBack Tools* may help redress the balance.



The competition – *QuarterBack* mightn't look as pretty, but it does the same job.

There are actually six tools available, and all are as useful on floppy disks as they are on the hard ones. First of all, for those irritating occasions when you accidentally type delete #? in the wrong directory, comes Reviver. Reviver will scan a disk and unless data has been written over the relevant portion of the disk, it will return the file to the land of the living.

Next up comes Analyst which will ensure the disk's structure is intact and will attempt to repair any damage. Nine times out of 10 the Analyst will repair a damaged disk. In the cases when it doesn't, 911-Recovery (a slightly different version from that incorporated into *AmiBack*) will take as many files off as possible. The disk can then be re-formatted and the files sent home.

For the paranoid, the Antiseptic tool will ensure that anyone else with access to a program such as Reviver won't be able to get at your data, by over-writing the disk rather than just removing the enter from the file index. I have my doubts as to the usefulness of this tool, but someone, somewhere will probably find it indispensable.

LabTest is a useful program for those concerned with virus damage. LabTest creates a database of file information which you can then compare with the files at a later date and highlight any changes. Again, not a mass-market utility but someone, somewhere...

Finally we have the General Practitioner, who as long as he has sufficient funds remaining for the year, will come around immediately and re-organise your disk in order to speed up access. This de-fragmentation process really works, as it repositions the files so that their constituent parts lie as close to each other as possible.

I had one problem in that after a crash G.P. was convinced the disk was corrupt, although the Analyst thought otherwise – this is one occasion where a full back-up and restore is probably best. Besides, this will automatically optimise the disk.

TIME FOR ACTION

Both programs come with a scheduler program, which is capable of activating any tool or backup process at a set interval: only really useful if you keep your Amiga switched on 24 hours a day. Whilst you sleep, the G.P. can re-organise your disk so that when you wake up, not only will you be an inch taller, but everything will run slightly faster too.

OK, to be honest unless your Amiga is in serious professional use and you have a SCSI tape drive for backups (would you want to be awakened at two o' clock every morning just to insert 40 floppies?) the Scheduler will be little more than a gimmick.

CONCLUSION

A set of disk utilities and back-up software is essential for the Amiga user. There are many programs in the public domain suitable for the task, but *AmiBack* and *AmiBack Tools* collect them together and polish them till they shine. A most professional set.

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EASE OF USE 90%
Good use of Intuition makes manual almost redundant.
VALUE FOR MONEY 85%
The inclusion of the recovery program boosts the score.
EFFECTIVENESS 88%
Works very well, although compression could be better.
FLEXIBILITY 95%
Easily tailored to your system, A4000 IDE included.
INNOVATION 75%
Nothing to get excited about - but good, dependable software.

> *Arguably the easiest to use and most powerful backup utility yet.*

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EASE OF USE 90%
Options are clearly laid out and AmigaGuide answers most queries.
VALUE FOR MONEY 91%
Six programs in one can't be bad.
EFFECTIVENESS 90%
Your best bet at fixing dead disks and speeding up live ones.
FLEXIBILITY 85%
The Scheduler adds to flexibility. Perhaps.
INNOVATION 80%
It's been done before, of course – but never quite as well as this.

> *The first time you use it, it will have paid for itself in time alone.*

OVERALL 88%


MasterCard



Everything becomes clear as GVP unveil their latest 8-bit sound sampler. Emma Chapman lends an ear.

Left: Resplendent in a radically different clear plastic case, it's DSS8+. Surely there's more to this upgrade than meets the eye?



GVP DSS 8+

Anyone watching the Chart Show cannot have failed to notice the rise in popularity of sampling amongst not just rap groups, but mainstream pop artists. Ever increasing numbers of groups and individuals are now using relatively cheap technology to produce 'songs' in the hope of becoming the next Megastar.

But even if you are just a humble Amiga lamer, and have no interest in producing a song, sampling has its purposes. For programming, particularly games, samplers are used to create special effects or even background music. Others may simply want to experiment and mess around with music for fun. Whatever your intended use the Amiga is one of the best choices as a low cost sampling system.

There are numerous models available. However, the hottest product on the scene as of now is the latest product from well-known Amiga developers, GVP. GVP's UK PR machinery is already gearing up for their latest outing and the hype is about to start. The original *DSS* was an offshoot of the technology originally developed for use in their high end telecommunications product *PhonePak* – which we're still waiting for.

Having gone through several improvements over the last year, GVP decided that component technology had progressed enough to warrant redesigning the basic engineering of the circuit board. Never being people to mess around, GVP also took the opportunity to redesign the casing, improve the manual and the software.

The software could maybe have done with a bit more improving. It seems rather similar to the original DSS8 software and still lacks some of the real-time effects and processing facilities of older competitiors.

HARD FACTS

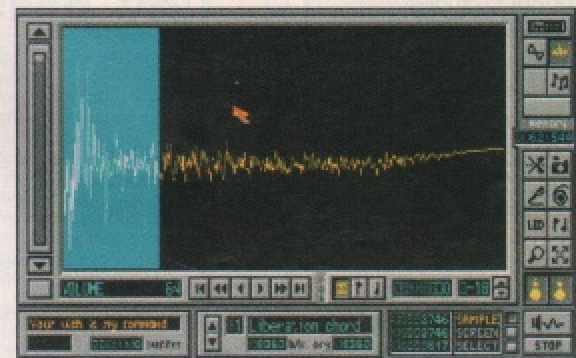
The hardware delivers an 8-bit sampler capable of sampling at rates of up to 51,136 samples per second and incorporates hardware channel selection with separate microphone and line-input ports. All this hardware is held in a compact unit (roughly the size of a cigarette packet) which works with all Amigas by plugging into the parallel port. This hardware can be controlled not only from GVP's own supplied software but also from almost any other Amiga sampling software.

When you get *DSS 8+* the first thing you notice is the styling. GVP are a company that take product design seriously, their A500 hard drives winning awards for design, and *DSS 8+* is also clearly distinctive in its styling. In fact, its advantages are crystal clear!

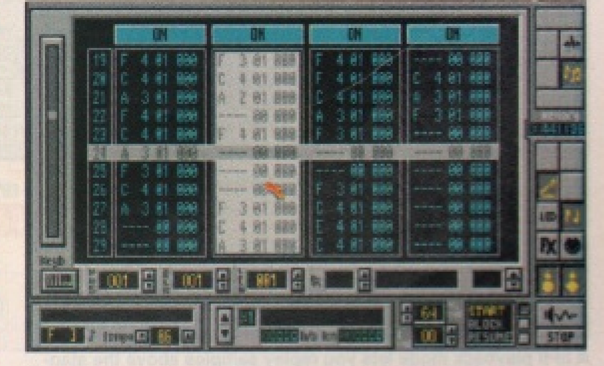
A TOUGH CASE

The case is made from a transparent polycarbonate (a see through, pretty tough material to you and me) which reveals the internal workings. Many hardware and peripheral manufacturers make special demonstration models just like this, but these are generally only available in limited editions or used for shows.

The next thing that strikes you about the unit is two massive screws. The ports on the Amiga have screw holes which will accept the fixing screws from any cables attached to them. Many cables »



Sample editing remains as before. The most often-used functions are also available from a *Deluxe Paint*-style icon strip along the side of the screen.



There's a basic *Soundtracker* section within the main program, which lets you try out your samples in a sequence without having to load up your normal tracker/sequencer software.



There are various ways you can monitor your icoming sound. The large oscilloscope is best to get a good signal to noise ratio, and the spectrum analyser comes in very handy.

Zooming in on your sample, you can carry out precise cut and patse jobs. This is essential for clipping unwanted noise at the start of samles, as well as for looping.

and plug-in peripherals don't bother with these screws because of the added expense. GVP has, but not only that, they have made them bigger so it is a lot easier to attach and remove the device in complete security. This may seem like a little point, but you try removing standard fasteners if you have arthritis...

Plugging the unit in and using the software reveals no major surprises. The software provides everything that could be wanted in a sampling environment, the ability to capture sound, mix it up, edit it, play it back and save the sound to a disk file.

Like the previous incarnation of *DSS 8*, the software has several components, these allowing for the actual sampling, editing, sequencing and a Control Panel.

IN CONTROL

In most hardware products a Control Panel simply allows you to configure the hardware set-up. The *DSS 8+* Control Panel and smaller utilities go a little further. They allow full control of the hardware without having to use GVP's own sampler software. This means you can use your own favourite sampling or sound editing package in case you don't like GVP's.

They also allow full control of the hardware through an ARexx interface. This 'open architecture' environment is a bold step by GVP, but one which should be applauded. The ARexx interface means that other programs, not directly connected with sound, will also be able to use the sampler. This means that you could control the sampler from *Scala*, *Hyperbook*, *CanDo*, or even *Art Department Professional* if you had the urge.

From the Control Panel you can control Left and Right input levels, frequency filter settings and sampler reference level settings. These are all set through simple slider controls and are available at any time with a 'pop-up' panel.

The sequencer is a cut-down tracker-style module. This lets you compose sophisticated music without having to worry about notes, staves and other music notation. With the tracker you can create four track songs (four sounds being played at once). To experienced musicians four may seem a little limited, but this was done to allow the tracker to play its sounds through the Amiga's own internal sound chip, which only has four channels. Each track is represented by vertical bars and you create your songs by positioning notes/samples on these bars. When played, the four tracks are then heard simultaneously, with the various sounds occurring in the order you specified on the vertical bars. This section of the software is fairly competent, but if you are in anyway serious about creating tunes this way there are much better PD offerings, such as *Med* and *OctaMed*.



The multi-purpose slider on the left of the screen can be used to control pitch, magnification and many other parameters.



A hi-fi playback mode lets you replay samples above the standard Amiga rates, but it freezes the rest of the program.

EDITING

Like a text editor, the sample editor lets you create and rearrange your samples. Each sample is stored in a 'slot', and to access a particular sample you click on its named slot. You can then change the characteristics of a particular sample via an array of sliders and others gadgets, alternatively you can edit its waveform. You can cut bits out, paste them back somewhere else and loop a sample – i.e. repeat it, magnify in on part of the graphic display of a sample for easier editing. Having rearranged your sample you can play it back and make further changes.

Before you can do any of this, however, you must sample your sounds. This, surprisingly, is done in the sampler. Again this is littered with lots of buttons, but is simple to use. You first specify the various attributes such as the sampling rate (the higher the better, and *DSS 8+* goes up to 51,136 samples a second – which is excellent) and then simply click the mouse button to begin sampling. Finished samples can then be saved to disk.

CONCLUSION

What makes a difference is the quality of the reproduced sound. In this respect *DSS 8+* is probably the best budget sampler around. Although it's only 8-bit, GVP originally engineered the hardware for use in their telecommunications package *PhonePak* and it features some advanced technology. The samples I created using the package were very impressive. These results, combined with the easy-to-use software, make GVP's *DSS 8+* a real contender for the best Amiga budget sampler so far! However, there are more releases to come so we'll keep you posted... CU

JARGON BUSTERS

- AREXX – A macro language for the Amiga, supplied with WB2.0 and up. Provides a standard interface allowingapplications to communicate with each other.
- TRACKER – Generic term for music sequencing sofware designed for non-musicians. Comes from *SoundTracker*, the original example of this type of program.
- WAVEFORM – Term used to refer to the graphical appearance of a sequence of sample data points.

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EASE OF USE 92%
Software that is easy to find your way around is quite rare in this market.

VALUE FOR MONEY 86%
The most expensive 'budget' sampler, but the hardware is the best.

EFFECTIVENESS 90%
Samples are of excellent quality.

FLEXIBILITY 82%
More real-time, or even non-real time effects would have been nice

INNOVATION 88%
The software still looks very much like the old version, but the hardware is an improvement.

"A few minor improvements on a quality sampler."

OVERALL 87%



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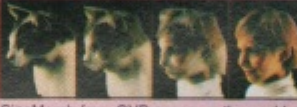
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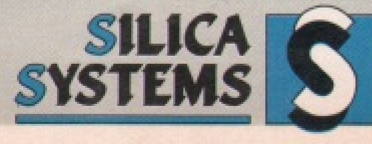
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Vista Pro 3.0

CU AMIGA TOP RATED

The Amiga's foremost landscape generation program has just appeared in its third incarnation. Mat Broomfield renders a few screens to see how it performs.

Vista's handling of trees is greatly improved, allowing you to specify their size, density and even their shape. Full 3D trees will greatly increase the amount of time it takes to render a scene.

Using *Vista*'s fractal generator it took about an hour on my 68030 Amiga to render this 24-bit twin peak landscape.

Pound per pixel, the Amiga still rates as one of the most powerful and cost-effective graphics computers in the world. This is doubly true thanks to the new Advanced Graphics Architecture (AGA) chips which are capable of generating screens in up to 256,000 colours at resolutions of 640x512 and higher. What better machine then, to flagship the virtual reality revolution?

Vista Pro 3.0 is a fractal landscape generator capable of creating static and animated landscape scenes in all Amiga screen sizes and colour modes including HAME and 24-bit. These landscapes can be generated in a number of ways. The first is by using Digital Elevation Maps (DEMs) which are essentially the same as ordinary contour maps except information is represented electronically instead of visually.

STRANGE BUT TRUE

One of the most valuable 'serious' uses for Vista Pro is the rendering of real landscapes using DEMs (Digital Elevation Maps). There are DEMs available for just about every noteworthy topographical region in the United States including the Grand Canyon, Sequoia National Park and Yosemite. DEMs are also available for many other interesting regions throughout the world including Mounts Fuji and Etna, the Alps and even the surface of Mars.

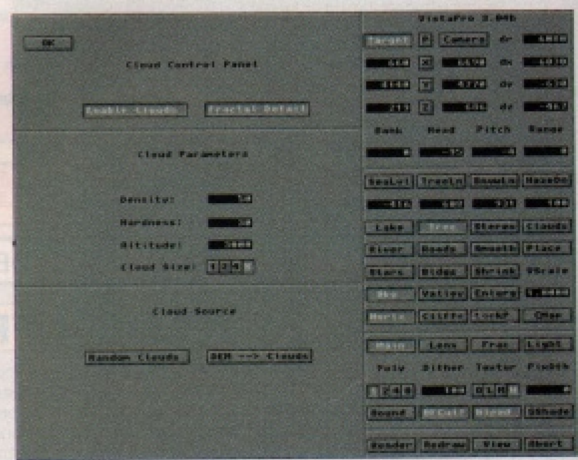
It's ironic then, that there are no DEMs covering parts of Britain available, and the reason? They're just too expensive. The British authorities charge such a high price for geological and topographical information of this sort, that it's cheaper to buy maps of the surface of Mars than it is to buy a map of the Lake District, Snowdonia or Ben Nevis!

ALTERNATIVES

The alternative to DEMs is to create an imaginary landscape using *Vista*'s generator which uses fractals to convert a nine digit number into a landscape. If you don't mind the long wait, there's even a Lyapunov-to-DEM converter on the disk, although I was never able to generate a believable looking scene using the program.

Whatever the origins of your landscape it will be converted into a DEM and a contour map will be created on the screen. Although this looks very similar to an elevation map, the actual landscape contains far more detail than can be displayed.

Having selected a map, you must now select both the viewpoint (known as the camera position), and the viewing direction (known as the target). These may be specified using the mouse, or by typing precise figures into a number of requestors. If you use the mouse to specify the camera location, the camera will automatically be located 30



The program now offers even better control over the size and type of cloud formations that you can create. You can save cloud formations independently of the landscapes.



Even on a non-AGA machine, you can render impressive scenes such as this view of Pike's Peak in America.

Although *Vista* is supplied with a Lyapunov-to-DEM generator, the fractal generator is far more effective and lets you create billions of different landscapes.

metres above the terrain where it's positioned. By using the wire-frame preview mode, you can get a rough idea of the view that you will get although it takes practice to equate the wire-frame view with the finished image.

To further refine the final output, you can choose between a wide angle or zoom lens, and these work in exactly the same way as their counterparts on a camera. It's even possible to change the focal length and field of view.

SIZE MATTERS

The next step is to specify the image size in pixels. This is done using the new graphics panel which lets you specify both the image size and the screen mode. Images up to 4096x4096 are supported.

Having specified the image size, you're ready to render your first image. The time it takes to render will vary according to a number of factors. The screen resolution, image complexity and additional terrain features (such as trees, clouds, etc) will all take their toll. There's a separate version of the program for owners of accelerated machines and this version runs significantly faster than the standard program.

At the lowest resolution, with no screen frills, a landscape can be rendered in a minute or two, but taking one of the more complex images, especially one that includes full three dimensional trees, it's quite possible to spend upwards of eight hours rendering on an unaccelerated Amiga...

Before you walk away, it's worth noting that all screens are rendered as 24-bit images, and these are only converted to specific screen formats when you save them.

HOW DOES IT WORK?

Fractals is the generic name for a simple but revolutionary type of mathematics pioneered by a man named Benoir Mandlebrot. By applying simple formulae to the construction of natural objects such as landscapes, a high level of complexity and realism can be achieved. *Vista Pro* also uses a precursor of fractal maths known as recursion. The basic theory of recursion is that large objects are made up of lots of smaller objects which have the same characteristics as each others. Therefore a mountain can be simplified as a jagged triangle shape. Furthermore any part of that mountain, no matter how small, is also very broadly speaking, a jagged triangle shape. Knowing this, you don't need to know the exact dimensions of every millimetre of the mountain in order to draw it realistically. All you need is its overall size, and a list of the rules which govern its shape. You can then fill in the fine detail by extrapolating from this information.

A far greater problem than the long rendering times (on basic Amigas at least) is the astronomical amount of memory that the program requires to run. AGA display modes require at least 6Mb of RAM, and even non-AGA modes need 4Mb.

FEATURE PACKED

When I asked Virtual Reality Labs why the program was so memory intensive, they responded by saying that they wanted to include every feature that their users requested. Whilst I praise this laudable sentiment, I would suggest that they should strike a balance between the accessibility of the program to ordinary users and the number of features it supports.

A number of new options have been added since version two. The most interesting feature must surely be the option to create three dimensional images which can be viewed through 3D glasses (not supplied). Better still, *Vista* can also generate stereo image pairs, which, if viewed with the right equipment (say a virtual reality headset) create genuine 3D without resorting to colour trickery.

Another interesting new feature is the option to add roads and buildings to a landscape. Buildings are merely square blocks of a pre-defined size, but they do provide an outline for your own hand-drawn modifications. Roads, on the other hand, seem rather pointless. Not only are they tricky to use, but you can't even specify their colour.

The tree function has also been vastly improved. The four basic tree types (cactus, oak, pine and palm) still exist, but the user now has infinitely more control, both in the trees positioning and their appearance. Each landscape is divided into four elevation zones, and you can specify the type, size and density of trees to be found in each zone. Furthermore, you can opt between unconvincing, but fast-to-render two dimensional trees, or you can specify the level of three dimensionality. The higher the level, the greater the number of foliage layers that are drawn, and the longer the rendering time.

DOC SUPPORT

The program also comes with excellent documentation. The main spiral bound manual is designed mainly for reference, and as such is concise and easy to understand. There are also two smaller manuals, one of which serves as a tutorial to the main program, whilst the other details the comprehensive animation scripting language.

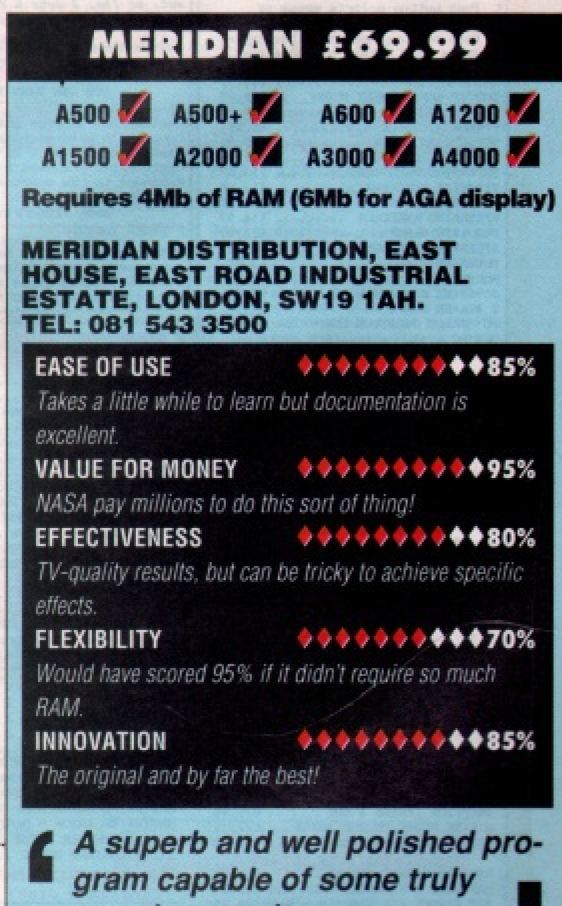
With this language you can define a voyage through your landscape occupying as few or as many frames as possible. Considering that some of the numerous sample scripts on the disks cover nearly 200 frames and can take several days to render, it should come as no surprise to learn that *Vista* is hard drive installable, and is all but useless for animation purposes unless you have one. True, you could render the frames to RAM: and run them from there, but the size of your memory then restricts the animation duration to unacceptable levels.

CONCLUSION

I was enthusiastic about the first version of *Vista Pro*, and this version is even more powerful and user-friendly. I'm very sad that its memory requirements take it beyond the reach of most users because its entertainment and educational value are immense.



The graphics panel is one of the most obvious examples of the program's hugely improved user interface.



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CITIZEN SWIFT 240C COLOUR £284.99
CITIZEN SWIFT 240 MONO £269.99
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128K RAM EXPANSION £33.99

CITIZEN SWIFT 200 SUPERB MODEL & ONLY £209.99
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GVP SERIES II HC8 + 80meg for A1500/2000	£334.99
GVP SERIES II HC8 + 120meg for A1500/2000 - now only	£409.99
GVP SERIES II HC8 + 210meg for A1500/2000 - now only	£559.99

The HC 8 Series II can accept upto 8, 1meg x9 Simms in 2 meg steps.

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4MEG 32BIT SIMMS FOR A530 ..	£179.99

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DTP packages


BUYER'S GUIDE

Desktop publishing is no longer the exclusive domain of rich arty types with Apple Macs. Mat Broomfield and June Brierly summarise your Amiga options.

As its name indicates, desktop publishing (DTP) is the process of creating publications from your desk – as opposed to a commercial printing environment. These publications may be as small as a single sheet newsletter or report, or they can run to hundreds of pages complete with 24_bit artwork.

With its WIMP environment and its graphical abilities, the Amiga is the ideal choice for low cost, high performance DTP work, and there's a healthy rivalry for the accolade of 'best DTP package'. We're going to take a look at the main packages to see what they offer.

PROFESSIONAL PAGE 4

GOLD DISK • £199.95

For a long time, *Professional Page* has been seen as the de facto standard for Amiga DTP software. Despite intense rivalry with Softlogik's *Pagestream*, *Pro Page* has always managed to stay one step ahead. In version 4, Gold Disk have yet again managed to come up with the features people want... but at a very heavy cost.

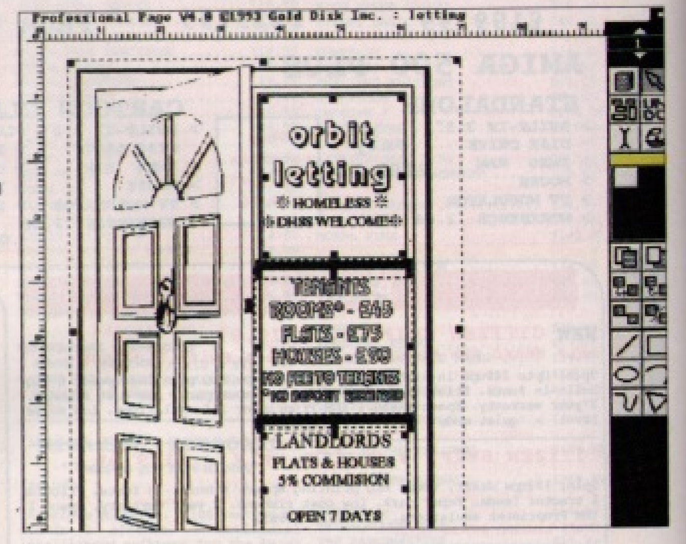
One of the program's more impressive features is its support for the AGA chipset as found in the A1200 and A4000. This means that you can now work in 256 colour screen modes for greater accuracy. Better yet, you can also use those wonderful new ultra-high screen resolutions, although you're going to need an expensive monitor to appreciate them.

One essential new feature (for magazine design at least) is *Pro Page 4*'s ability to handle double page spreads. This means that you can now add pictures and titles which extend across two facing pages.

Although the program handles scalable fonts, it can only directly use those which are saved in Compugraphic format. A conversion program is included so that you can use the wide range of Adobe Type 1 fonts available in the public domain, but it's not 100 per cent reliable. Another serious problem with *Pro Page*'s font handling, is that it can only load fonts stored in the assigned CG fonts directory. This means that you must either create a very large directory on your hard drive, or you must keep re-assigning the directory when you want to use other fonts. It would be nice to see Gold Disk give up their obstinance on this feature, and simply build Type 1 support into the program.

Perhaps the program's greatest asset is the incredible precision to which you can work. Everything happens in boxes: text is loaded into bounding boxes, as are graphics. These boxes can be sized and positioned to 1000th of a millimetre precision, as can the size of fonts and graphics within them. Strangely enough, fonts can only be resized in both axis simultaneously, whereas *Pagestream* lets you resize in either one independently of the other.

The program supports ARexx, and this is put to good use in 'Genies', single commands which can be used to perform complex operations such as creating drop caps.



Although a bitmapped art program is included, if you own *Pro Draw 3* the two can be hot-linked together. As you make a change to a graphic in *Pro Draw*, it will automatically be applied to the same graphic if it's used in a *Pro Page* document.

Also included is a fairly useful word processor (called the article editor). Both article and bitmap editor are attached to the program and can be accessed via a simple menu option.

One factor that limits the number of people who can use this program is the rather demanding system specifications needed – you MUST have a hard drive and at least 2Mb of memory.

Unlike previous versions of the program, *Professional Page 4* is extremely unstable, and it seems to crash or otherwise misbehave with almost painful regularity. Gold Disk are apparently working on a new bug-free version, and this may be available as you read this, but based on the versions I've used, I'd be inclined to stick with version 3!

Contact: Silica Systems, 1-4 The Mews, Hatherly Road, Sidcup, Kent, DA14 4DS. Tel: 081 309 1111.



PAGESETTER 3

GOLD DISK • £49.99

Pagesetter can rightly be thought of as *Pro Page*'s 'little brother'. Although early versions of the program were not too clever, version 3 is only marginally less powerful than *Pro Page* version 2 and its support of the AGA chip set is an added bonus.

Pagesetter works in essentially the same way as its more accomplished sibling, with all text and graphics being imported into bounding boxes which may then be freely positioned and resized as requirements dictate.

Although bitmapped graphics can only be shown in a maximum of four colours, structured art can be displayed in up to 256 colours on an AGA machine. Non-AGA machines are only capable of 16 colours, but these are dithered to produce over a thousand 'apparent' colours. Graphics may be imported in all IFF formats may be imported including 24-bit, however, the graphics editor supplied with the program can only support non-AGA, non-HAM screens.

As you would expect, the program uses both bitmapped and compugraphic fonts, and was in fact the first program to allow you to add patterned fills to typefaces.

Pagestream can import text in a wide variety of formats, and its powerful text editor is a slightly cut-down version of *Transwrite*. The text editor is even supplied with a spelling checker, so you could actually use it as your main word processor.



As you would expect, from a program such as this, printed output is both slow to produce and high in quality.

Pagestream will run on a 1Mb Amiga with two floppies, so it's also the least demanding of the DTP packages reviewed here.

Contact: Silica Systems, 1-4 The Mews, Hatherly Road, Sidcup, Kent, DA14 4DS. Tel: 081 309 1111.

80%

WORDWORTH 2

DIGITA INTERNATIONAL • £129.95

Four years ago, the difference between DTP packages and word processors was clear. DTP packages were for page layout and design, and word processors were for handling text only documents.

Then came *Wordworth*, the first of the so-called page publishers; word processors which had enough DTP features to blur the distinction between the two.

Wordworth 2 supports scalable fonts, and is supplied with 17 Compugraphic typefaces. It also supports bitmapped graphics and AGA screen modes.

Its graphic handling abilities are not as flexible as those of a DTP package; it can't handle structured or clip formats for a start, nor can it deal with 24-bit images. However, for the average home user, its features are more than adequate for creating reports, doing homework and that sort of thing.

However, as an added bonus (because *Wordworth 2* is marketed as a word processor) it has excellent text editing and proofing features. These include a very comprehensive English spelling checker and thesaurus, indexing features, headers and footers and a host of other options.

The program is far more intuitive to use than a DTP package, and is a delight to use.

It can import and export text written on a variety of other Amiga word processors, and even recognises PC *Word Perfect* format.

Perhaps the program's very best feature is its encyclopaedic support for just about every printer in the known universe – and then some!

This means that unless you own some weird device built and designed on the third moon of Tau Ceti, you're certain to get the best possible quality from your print outs.

Contact: Digita International Ltd, Black Horse House, Exmouth, EX8 1JL. Tel: 0395 270273.

87%

PAGESTREAM 2.2

SOFTLOGIK • £69.95/£199.95

The *PageStream* vs. *ProPage* battle continues with the release of *PageStream v.2.2*. Of course the choice is clear if you don't have a hard drive, as current versions of *ProPage* cannot be used without one, but *PageStream* will run from floppy disk.

PageStream v.2.2 uses Workbench 2 styling, with standard requestors. Many improvements have been made; for instance, the option to select items by double-clicking has been added, and the program can now be loaded by selecting a document icon.

PageStream opens with a blank page onto which you can import graphics, draw columns to receive prepared text, or type directly onto the screen; this produces a 'text object', which can be resized and manipulated, including the ability to rotate, slant and twist it. Unlike *Pro Page*, sizing handles appear on the active object only, giving an uncluttered look and showing instantly which element is selected. There is a useful 'Align' option which will automatically align objects to the top, bottom, sides or centre of your page, or to each other. To enable you to line up objects precisely, you can use Snap to Grid or Snap to Guides, using a grid measured in inches, centimetres or points.

Structured drawing tools are provided, and variations in line style and width can be applied to all structured shapes. In version 2.2 the tools have been redesigned, combining the rectangle with the square, the ellipse with the circle, etc. A new magnify/shrink tool has also been added.

PageStream can import bitmap pictures, *ProDraw*, *Adobe Illustrator* and EPS clips; when you save a document any graphics are saved with it, and will appear automatically as soon as the page is loaded. HotLinks support for SoftLogik's *Bitmap Editor* and *PageLiner* programs is provided.

Font handling is excellent, especially if you own many typefaces. Eleven fonts are supplied, and SoftLogik's own fonts, Adobe Types 1 and 3, and Compugraphic formats can all be used. You can load fonts from any drive, adding them to your fontlist as and when you need them. Unfortunately there's no preview facility, but a FontSpec template is supplied so you can print out the full character set of any typeface for reference.

PageStream can apply many styles to your text, from the usual italics, underline and bold to more unusual effects such as shadow and reverse. Text can be in any colour, on any colour background, and your choice of fill patterns, including a user-definable pattern, can be added. Type size can be selected from the given list or typed into a string gadget, and the range of possible sizes far exceeds anything you are ever likely to need.

Text flow round graphics is well supported, and columns are easily linked, allowing your text to flow from one column to another, onto any page of your document. Templates and style tags can be created.

Dozens of printer drivers are provided, including the popular Canon bubblejet and H.P. Deskjet ranges. *PageStream* overrides your Workbench Preferences settings to produce the best resolution possible.

The colour separation feature lets monochrome printers produce colour pictures by passing the same piece of paper through your printer four times, with a different coloured ribbon or ink cartridge for each pass. Crop marks are available for use with any printer, and the improved PostScript driver can also include slur gauges, colour strips, registration marks, and frequency and screen angle for print bureau use.

Soft Logik are currently running a special offer version of *Pagestream* which comes shrink wrapped (as opposed to boxed) for only £69.95 – a discount of £130 on the regular boxed edition. Owners of the shrink wrapped version will not receive a free upgrade to version 3.0 (which is due in the Autumn), but they will receive a voucher enabling them to upgrade for $125.

Contact: Meridian Distribution, East House, East Road Industrial Estate, London, SW19 1AH. Tel: 081 543 3500.

85%

FINAL COPY II

SOFTWOOD INC. • £99.95

Final Copy II is the only real rival for *Wordworth* in the page publishing stakes. It can handle standard Compugraphic fonts, but it also uses a propriatory typeface called Softfonts, which produce even better quality output than the Compugraphics. For people on a budget, *Final Copy II* also handles Adobe Type 1 fonts (which are available in the public domain in their hundreds), and it's the only word processor to do so.

Remaining with text handling, *Final Copy II* even has features which are not found in DTP packages such as positive and negative obliquing for precise control over the direction and degree by which text slants (if at all).

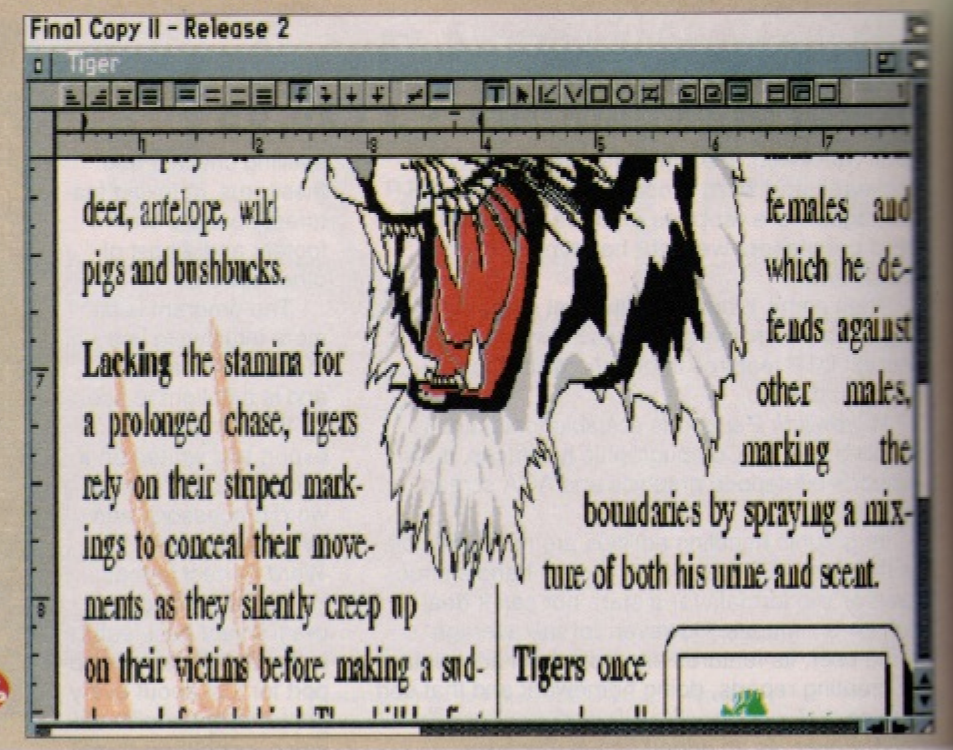
Like *Wordworth*, the program has a number of text flow options so that you can specify exactly how text should position itself around graphics. Uniquely, it also lets you place graphics under text.

The program is let down by its non-existent import/export filters which restrict its ability to communicate with other industry standard software.

However, its print engine is even more powerful than *Wordworth*'s so if results are your ultimate concern, this is well worth a look.

Contact: Gordon Harwood Computers, New Street, Alfreton, Derbyshire, DE5 7BP. Tel: 0773 836781.

88%



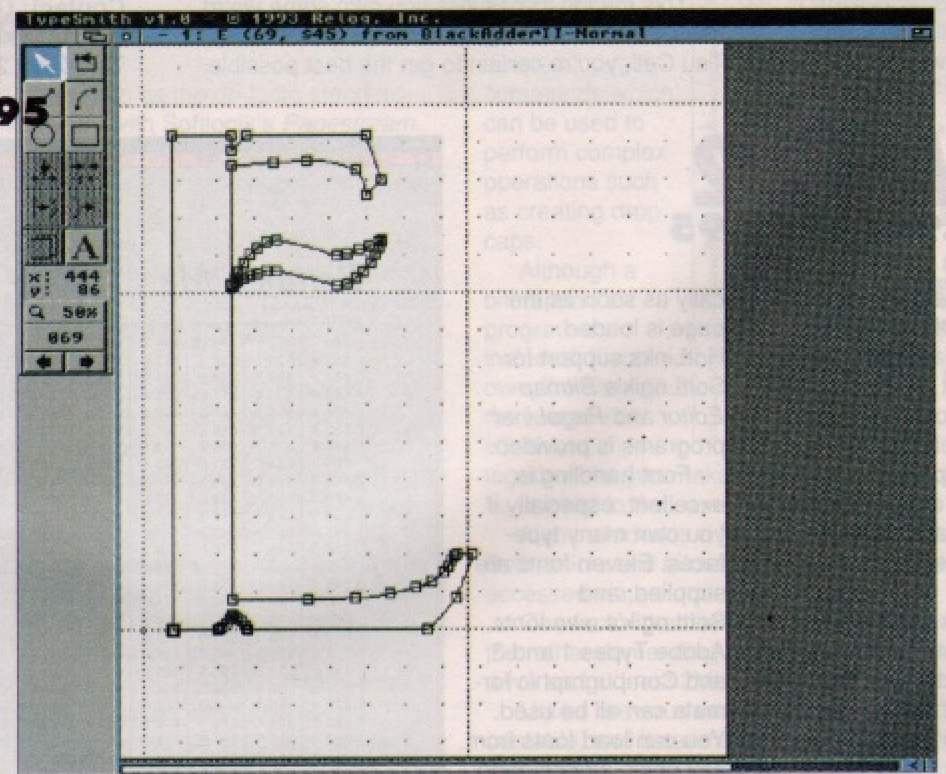
TYPESMITH

SOFTLOGIK • £129.95

No discussion of desktop publishing would be complete without mentioning the scalable font technology which has improved output quality beyond recognition.

Unlike bitmapped fonts which are designed to be used only at specific sizes (and which deteriorate drastically when they are used at other sizes) structured fonts can be rescaled with virtually no loss of quality.

The only trouble is, there are lots of different types of structured fonts, and different programs require different types. To make matters worse, until recently, there was no way of designing your own structured fonts on the Amiga. You had to use a designer on the Mac or PC then convert the fonts across.



Thanks to *Typesmith* (or *Font Designer* as it is known in non-English speaking countries) Amiga owners can now design and edit fonts which can be imported and exported in all the most popular formats including postscript, Adobe type 1 and Compugraphic.

In some ways, *Typesmith* is similar to any other structured drawing package in that the individual letters are constructed out of bezier curves.

However, because of some Postscript printing rules that the program adheres to, the simple if time-consuming design process may seem a bit unfamiliar at first.

This is an essential program for serious (and well heeled) DTP enthusiasts.

Contact: Silica Systems, 1-4 The Mews, Hatherly Road, Sidcup, Kent, DA14 4DS. Tel: 081 309 1111.

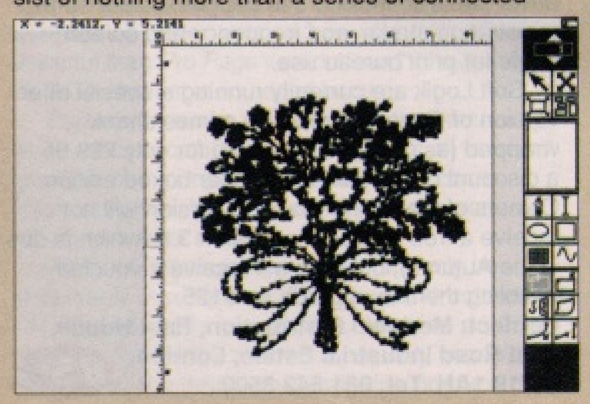
90%

PRO DRAW 3.0

GOLD DISK • £129.95

Nothing perks up a page layout better than a picture, and nothing improves a picture better than designing it in a structured drawing package such as *Pro Draw*.

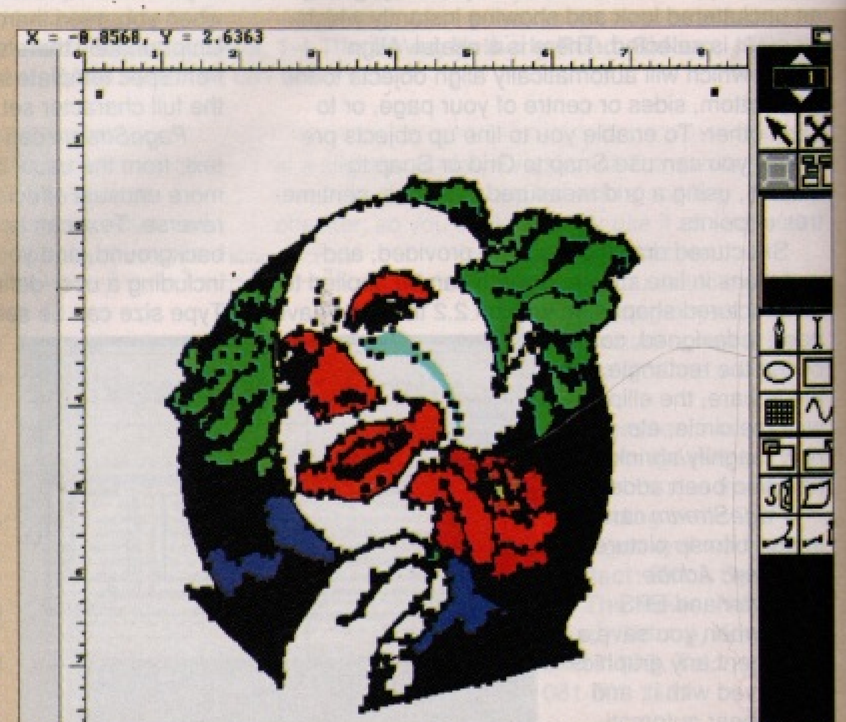
All drawings created with such a program consist of nothing more than a series of connected lines and curves. Whilst this method costs more memory if the image is to be printed at a small size, the great advantage is that no more memory is needed, even if the image is printed at gigantic sizes. Furthermore, the printed image is always produced at the maximum quality of the printer.



Although there are contenders in the structured drawing package market, *Pro Draw* is the one against which they're all competing, and in my opinion, it's still far and away the best choice.

Contact: Silica Systems, 1-4 The Mews, Hatherly Road, Sidcup, Kent, DA14 4DS. Tel: 081 309 1111.

90%



Buying a joystick is easy. Choosing one that doesn't fall apart after five minutes isn't. But fear not! The CU AMIGA team have been putting a variety of 'sticks through their paces. Here's the first of three comprehensive reports.



BUYER'S GUIDE

Alas, there's no such thing as a perfect joystick. We wish there was. Not a week goes by, it seems, without another 'stick biting the dust. And as this usually happens during a game of *SensiSoccer*, it's a tad annoying (especially when poised to stick yet another goal past the hapless Jon, who has the co-ordination of a drunken slug and is the official all-time worst *Sensible Soccer* devotee ever)! If I were a conspiracy theorist, I'd be shouting my head off about how it's all a plot by the joystick manufacturers to keep us buying their sticks in ever increasing numbers, but I'm not, so I won't. But it does make you wonder, doesn't it?!

If you're as fed up as we are at having to fork out for a new 'stick every few weeks, then fret no more! CU AMIGA's crack team of wagglers have been putting a select number of sticks through their paces for the last few months to find out which of them can truly be called the king of the sticks. So if you want to get a stick with lasting value, read on!

Joysticks



COMPETITION PRO MINI • SONMAX • £12.99 • TEL: 0457 876705

Competition Pro sticks have long been an office favourite, but when we saw this micro version we thought it just HAD to be a wind-up. Literally half the size of its big brother, the Mini stick is one of the smallest joysticks we've seen. And, once you've plugged it in and started using it, you'll also find that it's one of the best. It fits so snugly into the palm of your hand that you almost forget it's there. This makes it a brilliant stick for younger players, without the cumbersome grip familiar to most joysticks.

The only reservation we have with this stick is that it feels as though it will fall apart if you really give it some welly, despite having the obligatory 'robust steel shaft'. Ours remained in one piece however, but we may have been lucky. As an added bonus the clear plastic box the joystick comes in also doubles as a couple of disk boxes.

VERDICT

If you can withstand the taunts that will come from your mates when they see the size of your stick, it's definitely worth buying.

93%



CRUISER TURBO • POWER PLAY • PRICE £13.99 • TEL: 0457 876705

Since it first came into the office a few years back, the Cruiser has a been a firm favourite with the CU team. So much so in fact, that instead of losing sticks through breakage, most of ours have been nicked.

The Turbo is the latest addition to this range. It's basically an autofire version of the existing Cruiser, which is designed to replace the previous rapid fire incarnation. That joystick had a major design flaw – you couldn't deactivate the autofire. Power Play have solved this problem by including an extra button for the autofire, which is a good idea until you try to use it.

It's positioned right in front of the stick, which makes it awkward to use if you're pushing the stick forward. Apart from that the stick is almost identical to the basic model. It has the same excellent handle and its wide body makes it one of the best desk-top sticks. If you can't live without autofire and don't mind getting involved with some finger aerobics, this is a great stick.

VERDICT

Robust and accurate, this is one of the best sticks on the market.





SPEEDKING ANALOGUE • KONIX • PRICE: £14.99 • TEL: 0495 350101

The difference between digital and analogue joysticks is that the latter senses how far you move the stick rather than just what direction you've moved it in. This makes them ideal for driving games and flight sims, but very few titles cater for them. For some people the Speedking is the best joystick ever designed, but a quick survey of the CU offices found that quite a few end up with cramped hands. The analogue model is no exception, and you either have to grit your teeth and bear it, or reach for the pause button.

The centre return switch which activates and disables the return spring is really awful, and just know it's going to stick or snap at some point. However the stick is guaranteed for a year, so Konix obviously have faith in it.

It's not all bad news though, this is cheap,and it certainly costs less than a PC joystick with a converter. But you get what you pay for. There aren't many games that require an analogue stick and there are many digital sticks which are a lot more comfortable than this one.

VERDICT:

Cheap and nasty with almost no software support.





QJ I TURBO • SPECTRAVIDEO • PRICE: £6.99 • TEL: 081 900 0024

At first glance this joystick looks like another one of those hideously cheap, fall-apart-in-a-minute sticks. But once you plant it on the table it's a whole different story.

For starters, the cheap-looking plastic is actually very robust, although there's not much of a base which makes it difficult to hold on to. The stick is surprisingly comfortable, mainly because it's comparatively thin, but it doesn't feel very solid, especially when you start yanking it about when playing something like *Aquatic Games*.

The micro switches are impressively clicky, although the joystick is a little unresponsive at times. One design flaw is the top fire button, which isn't high enough to use effectively. Consequently you spend more time thumbing the stick than the button. Despite that, this joystick is good enough to contend with many of its expensive counterparts, which makes the price seem all the more attractive. The only thing it lacks is an autofire switch as it's difficult to get a good amount of speed-firing from a front-mounted trigger.

VERDICT

If you're after a cheap replacement joystick with no extras, then this is one you should seriously consider.

85%



SUPERCHARGER • SPECTRAVIDEO • PRICE: £9.99 • TEL: 081 900 0024

This stick goes from one extreme to the other. The stick is far too loose while the fire buttons are frustratingly stiff.

The basic design is that of the old Quickshot 2, which acted as a prototype for most of the modern sticks. Maybe I'm a nostalgia freak, but that joystick was good enough as it was. This incarnation doesn't look as good as the original, and despite 10 years of technological advances, doesn't perform as well.

The loose stick makes it too easy to over-compensate or accidentally move left or right when you just meant to fire. As a result the joystick is frustrating to use and you'll probably end up chucking It around, drastically reducing its life-span.

VERDICT

A yukky little stick with very little going for it. We pitted it against Team 17's Project X and it was truly hopeless. There was just so little control over the on-screen craft that the game was even more frustrating than usual. Little design or thought has gone into the 'stick's construction and it's best avoided at all costs.

23%



SUPERSTAR • SPECTRA VIDEO • PRICE: £13.99 • TEL: 081 900 0024

This joystick has been a star performer on many table tops since it first appeared. One big advantage is its five suckers, which keep it level no matter how much of a thrashing you give it.

The stick is loose, but not to the degree of the Supercharger. This makes for excellent response and the design of the stick makes it far more comfortable than most of the sticks with handle grips. The clear plastic body makes it look like it will only stand a few minutes of determined pounding before cracking, but in reality nothing short of jumping on it will harm this stick.

The autofire is fast, but with two fire buttons in such close proximity it would have been good if one remained on normal fire. One drawback is the positioning of the suckers which makes the Superstar impossible to use while holding it

VERDICT

Tough, reliable and once you plant it on your desk you won't be able to shift it accidentally. Obviously, because of its construction, the 'stick isn't meant to be used as a hand-held, but once affixed to a desk-top, it's impossible to move. A touch on the expensive side, but probably worth the investment.

80%



CRUISER • POWERPLAY • PRICE: £10.99 • TEL: 0457 876705

The Cruiser range is certainly one of the most unattractive off-shoots of the joystick tree, but their look utterly belies their performance.

Firstly they feature a novel system which lets you set the stick to one of three different tension levels. The fire buttons are well-placed, but the overall design of the joystick makes it impractical for hand-held use.

Durability is another plus point. We're still using one of the original ones we were sent when it was first released. If you buy one of these you can expect to be using it for years to come.

The only down side to this stick is the hideous colours they come in, I can think of several hundred combinations which are a lot easier on the eyes than the ones chosen for these sticks.

VERDICT

Strong, reliable and responsive, this is still one of the best sticks around. The three different tension levels mean that there will definitely be one to your liking. Oh, and if the garish colour schemes aren't to your liking, there is a pure black number available. Built to last, we're still using one of the original sticks from way back when.

87%



SPEED KING • KONIX • PRICE: £10.99 • TEL: 0495 350101

Unlike its analogue brother, the digital version of the Speed King is a very good stick. Its design makes it one of the most ergonomically sound hand-held joysticks, unless you're one of those people whose hands cramp up while using it.

This particular stick has a very cheap feel to it. The plastic is the nasty kind that's usually found on Taiwanese kids' toys, with additional nasty sharp bits underneath where it hasn't been trimmed properly. We've been using these sticks on and off for five years now, and in that time we've only busted two.

Because the stick is so short, unresponsiveness is not a problem. The side-mounted fire button can lead to finger stiffness if you have to pump out a constant stream of fire, but there is an autofire version of the stick which eliminates this problem. If you don't mind its cheap feel, the Speed Kings are a tough and responsive range of sticks.

VERDICT

The best hand-held 'stick of the lot. Fits snugly into the palm of the hand and is responsive to even the slightest tug on the shaft. Worth a look.

84%

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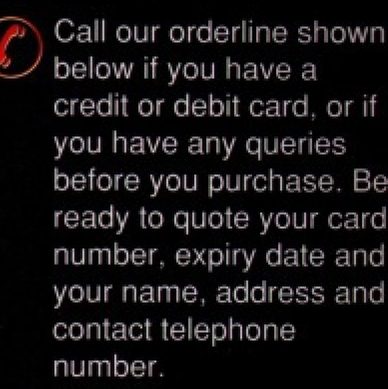
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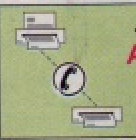
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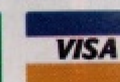
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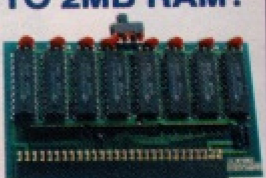
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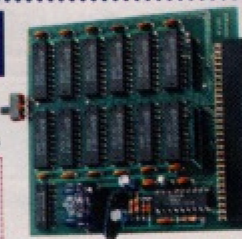
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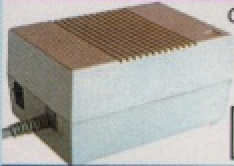
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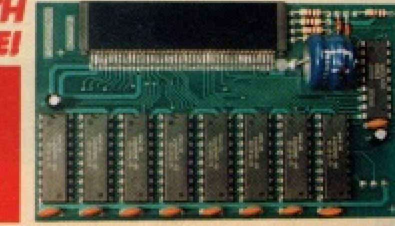
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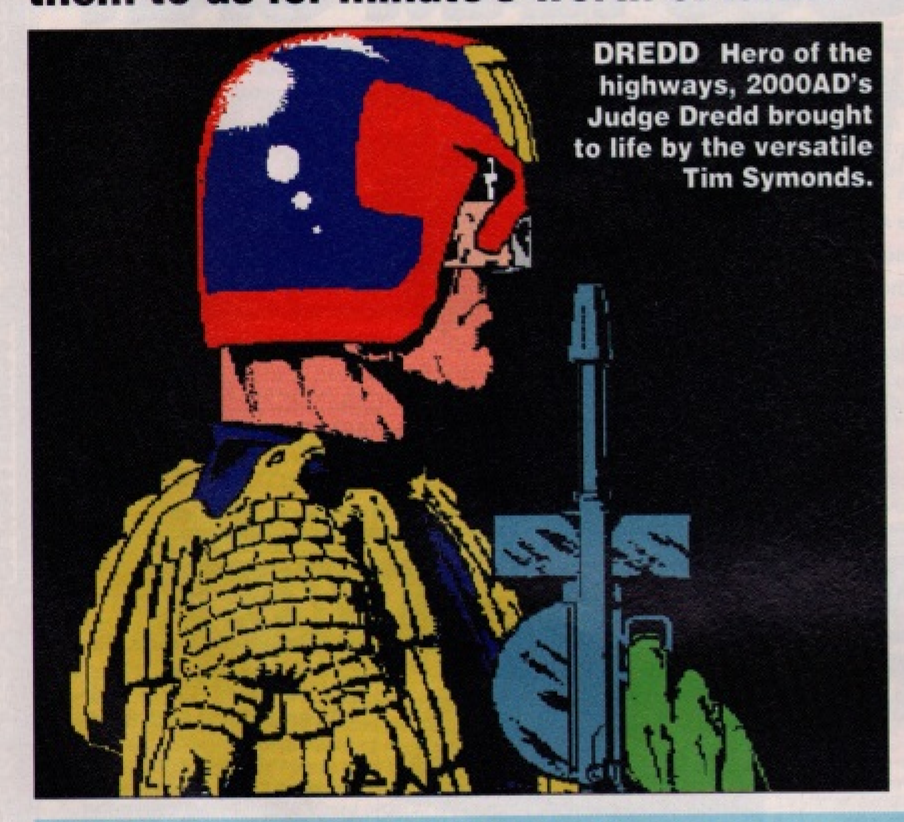
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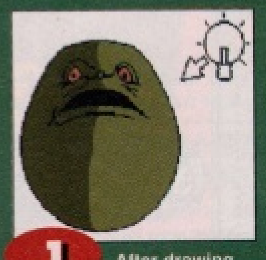


We know you're a talented bunch out there, and here's your chance to prove it. Dig out your DPaint files and send them to us for minute's worth of fame.



DREDD Hero of the highways, 2000AD's Judge Dredd brought to life by the versatile Tim Symonds.

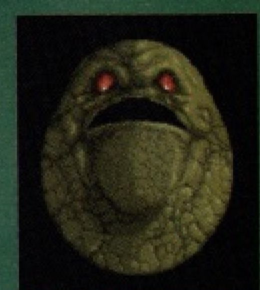
PACMAN'S REVENGE Ryan Morgan envisages a world where sprites fight back. Here he is with his low-res 32-colour rendition of everyone's hero, Pacman.



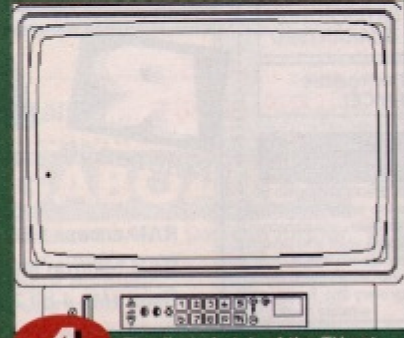
1 After drawing the character on paper, Ry transferred the image to screen using the circle and line tools. After deciding where the light source is going to be, he drew a lightbulb as a drawing aid and then added basic light and shade.



2 The black outline has been removed and the shading has begun. Note the use of small shapes and patterns across the body to break up the colour. This way, the transition between light and dark shades is smoother.



3 The finished Pacman on a black background. The background, incidentally, is there to make anti-aliasing by hand so much easier.



4 The first sketch of the TV set. As a TV is quite square in dimensions, the grid tool in conjunction with the arc and line tools made the plan easy going.



5 A splash of colour, and then both images are combined. Some jagged lines were added to give the screen a smashed look.

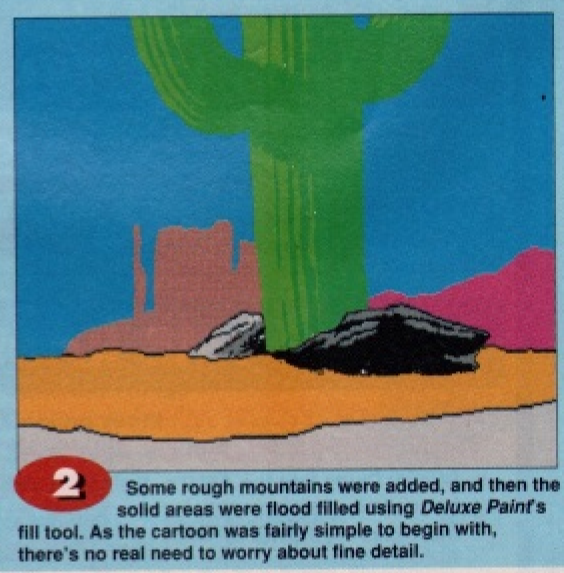


6 The completed picture. The shading on Pacman was reworked slightly with an improved palette. The smoke was created by drawing some spirals in a variety of greys and some random straight lines were placed within the broken screen to look like circuitry. Be afraid. Be very afraid.

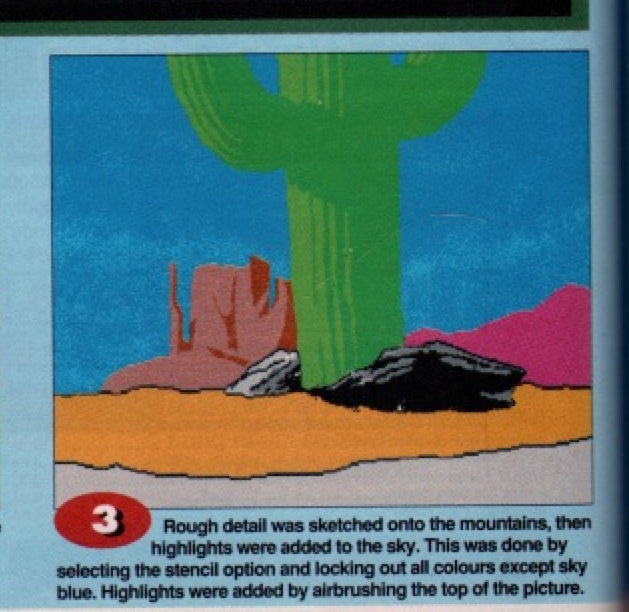
ROAD RUNNER & WILE E. COYOTE Possibly the most entertaining cartoon on our screens after Tom and Jerry has to be the adventures of Road Runner and the ever hopeful Wile E. Here they are on your screen courtesy of Tim Symonds of Peterborough.



1 A simple freehand sketch in black, but already you have a familiar landscape to work with.



2 Some rough mountains were added, and then the solid areas were flood filled using *Deluxe Paint*'s fill tool. As the cartoon was fairly simple to begin with, there's no real need to worry about fine detail.



3 Rough detail was sketched onto the mountains, then highlights were added to the sky. This was done by selecting the stencil option and locking out all colours except sky blue. Highlights were added by airbrushing the top of the picture.

BLUES BROTHERS **They've been on Sky Movies a lot recently, so why not let Barney Neale bring back some of that old Belushi magic, using his A500 in 32 colour lowres?**

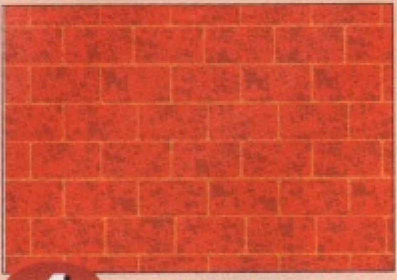
1 Sitting down with a copy of the original picture of the brothers, as used on posters, videos, t-shirts and computer games alike, Barney set himself the difficult task of copying the image to screen freehand as a line drawing.



2 A little close-up work with the magnify tool and the image is tidied and refined. Even now, you can see who it is! The trick with an image such as this is to keep it simple while still making the characters recognisable.



3 With the fill tool and some final refinement, the image is filled black, for that art school look! You must be careful not to leave any gaps in the line drawing otherwise when it comes to using Fill you end up painting the whole screen black.



4 This wall background was created by drawing a single brick, and then lifting it as a brush. It is then stamped down, mortar is added by air-brushing the gaps between the blocks, and then the smear tool is used to remove the square effect.



5 Finally the brothers themselves are added to the wall. There you have it – the coolest Amiga graffiti around!



ILLUSION **Stuart Carey's heavy metal mind turns to Guns N' Roses this time with the cover to 'Use Your Illusion 1'. Change the colours and you've got 'Use Your Illusion 2'!**

WRITE BACK

So, you think you can do better than the artists on these pages? Are your standards so high that you haven't been knocked senseless by the quality of the work you have been allowed to witness? Well why not put your money where your mouth is? Or are you all mouth and no trousers?

Remember, if you're going to send us your work, take note of these points:

• Include a selection of files showing your picture in a variety of stages.
• Include a description of how each picture was constructed. Please write this on a separate sheet of paper rather than a text file on the disk.
• If your work is based on the work of another artist, please state who the artist is, the name of the original picture and where you saw the copy you worked from.
• If you would like your disk returned, please include an SAE, remembering the weight and fragility of disks.
• Please make sure that your envelope is marked 'Magnetic Media – Do Not X-ray' to save any unfortunate occurrences at the sorting office.

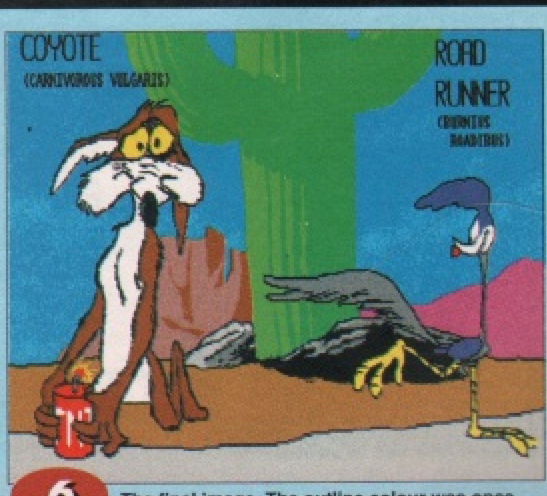
When you've got your work of art ready and have fulfilled all the criteria above, send your disk to: Art Gallery, CU Amiga, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.



4 A rough drawing of the main characters. These two images were chosen because of the expressions on their faces. They were drawn white on black so that they can be lifted with a transparent background.



5 The outline colour was changed to red, to show better against the background. Then the images were coloured and detailed by hand, before being lifted and placed on the pre-drawn backdrop.



6 The final image. The outline colour was once again changed, this time to black, and some final details were added. All in all the picture took about four hours, and I think you'll agree that it's worth the effort!

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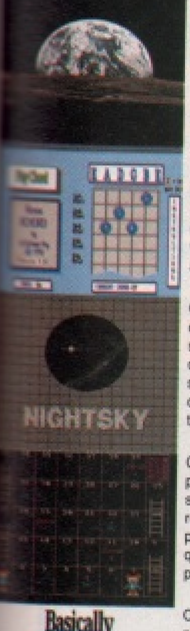
Most CLR titles ok on A1200!



CLE01 TOTAL CONCEPTS DINOSAURS Have your children ever wanted to know about the ancient world of the dinosaur ? If so, then this is for you - an interactive encyclopedia covering jurassic, triassic & createaceous periods complete with pictures and information. This program is plus compatible and comes on 2 Disks. £4.50 +

CLE02 TOTAL CONCEPTS GEOLOGY Thit title is the second in the series of quality programs by Chris hill, using the GoldDisk Hyperbook system, it will guide you and your children on an interactive guided tour through the incredible world of volcanos, rocks and minerals. the program is very simple to use ! Geology is on 2 Disks £4.50 +

CLE03 TOTAL CONCEPTS SOLAR SYSTEM Now our most popular title ! This one invites you to learn all about the solar system, with information on all of the planets & systems with pictures supplied by Nasa, this is a superb educational package for children & adults. This title is so big it is supplied on Three disks and is priced at only £4.99. +



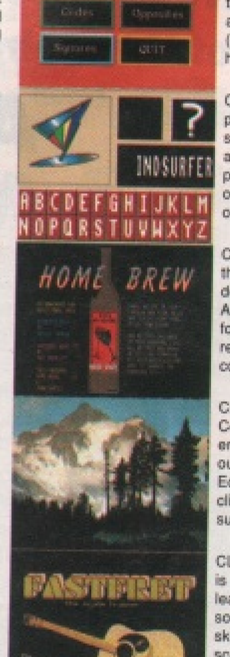
CLE05 A-CHORD So you want become the next Eric Clapton then this is just what you need ! This program will teach you nearly every single guitar chord including fingering techiniques, it will even play the chords using the amigas built in sound chip. A must for every single guitar player beginner and experts alike. Price £3.50 +

CLE08 NIGHT SKY A superb introduction to the constellations, this program features over 1500 stars, and the sun moon stars & planets can be displayed as seen from any part of the Earth! Large scrolling screen, mouse or keyboard controlled, click on any displayed object for information. This superb title Comes on 1 disk & is priced at 3.50!+

CLE09 WORDS & LADDERS An exellent spelling program for 1 or 2 players, each player has a few seconds to spell a word correctly, the player who reaches the top of the ladder is the winner. The program has 10,000 words so some words can be quite long, however you can select the level! Will also provide printed output to a connected printer, 3.50!+

Basically Amiga

CLE10 BASICALLY AMIGA This is a 3 disk set for the new user! An extensive guide through the use of Amigados. Covering Hardware, Software, Graphics, Sound, the Workbench, Viruses and much much more,you will soon wonder how you did without this useful utiliy pack! For young and old users alike. 3 disk set priced at 4.99! +



CLE11 LET'S LEARN V1.1 For children of about 5 to 7 years of age, each part progresses through five levels of difficulty, when a level is satisfactorily completed then a picture of a farmyard is displayed & a new animal introduced! Try Sums, Tunes, Codes, (numbers) , Opposites & Squares! The program also has a print option! 1 disk 3.50. +

CLE12 ALPHABET TEACH A nice educational program for the young., a very simple to understand spelling program which shows the child a picture & asks for the completion of the appropriate word. The program also has built in speech and will run a series of pictures at the same time speaking the name of the object displayed. Comes on1 disk and is priced 3.50+

CLE13 HOME BREW This is a superb program for the creation of home made wines. It covers all the details of fermentation, bottling & storing of the wine. A selection of recipes for many different wines can be found on the disk & there is an option for printing the recipies out to a connected printer! This program comes on 1 disk and is priced at 3.50. +

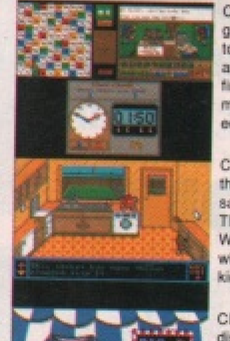
CLE14 TOTAL CONCEPTS ECOLOGY Total Concepts Ecology will give you and your children an enthralling overview of the most important "ology" in our lives. This alternative way of learning about Ecology enables you to flip through pages of text, click onto words to get more information and contains superb graphics. Supplied on 3 disks priced 4.99 +

FASTFRET

CLE15 FAST FRET By Keith Klatworthy, this program is a guitar scales tutor, the very thing for the budding lead guitarist! Will play the scales through the Amigas sound chip with ajustment of speed for every level of skill required! There are many exercises in many scales so you too can become the next rock legend! Supplied on one disk priced 3.50. +

CLE16 KINGS & QUEENS A History lesson on all of the Kings & Queens of England since recorded history! Allows you to read & examine the royal family tree & is complete with many pictures! Find out how they lived and died and what contributions they made to society & their country. Supplied on 2 disks priced 4.50! +

CLE17 THINGAMAJIG This program is an electronic jigsw with easy or hard levels! There are 24 pictures on the disk and you have to place the pieces in the correct place on the screen! There is also a Help facility on the disk, a very good educational program from Len Tucker!
Comes on 1 disk and is priced 3.50 . +



CLE18 WORK & PLAY There are three educational games on this disk, CLICK CLOCK is a clock program to help children learn the time, FUNTIME TABLES is a program for learning the multiplication tables, and finally LETS GO SHOPPING teaches children simple multiplication & division! Very colourful and attractive educational disk! Comes on 1 disk priced 3.50. +

CLE19 PLAY IT SAFE This program teaches safety in the home or outdoors! Help Teddy make your home safe as it has been invaded by mischievous beasties. There are 5 dangers in each location & 9 locations! When you make something safe you are rewarded with part of the picture of the beastie! Very good for kids of 3 - 10 years! Comes on 1 disk priced 3.50. +

CLE20 BIG TOP FUN Four good programs on this disk, there is a speech option which may be turned on or off! WORD BALANCE is a childs reading aid, In MATCHPLAY you must match pairs of cards, BALLOON BURST is a word recognition program & SEAL A GRAMS is a spelling program! This program comes on 1 disk & is priced 3.50. +

CLE21 JIGMANIA by Len Tucker. There are two programs on this disk, Jigmania is a jigsaw solving program and will keep you & the kids amused for ages! There is also a jigsaw construction set to allow you to create your own too! There are several jigsaws provided on the disk and there are childrens and adult options! Comes on 1 disk priced 3.50. +

CLG18 SKAN 29 This is a fun platform game in which you must guide Sid through 220 screens and defeat the big droids at the end of each level, the game will run faster if you are lucky enough to have an Amiga 1200! This game should keep you occupied for a long time! Comes on 1 disk priced 3.50. +

CLG 20 JUNGLE BUNGLE by Len Tucker. This game is essentiallyt an icon driven adventure written mainly for the younger person in mind but anyone can play! You must catch the raindrops but beware of the banana stealing monkeys! Very addictive with colourful graphics. Comes on 1 disk 3.50. +

CLU03 TYPING TUTOR A program here now for all you budding office clerks, learning to type can be a real pain, lessons cost a fortune, but not when you have an amiga ! This program will take you step by step through a full typing course, showing where to place your fingers and lots more. Before long you'll be able to type as fast as I can ! Price £3.50 +

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FLOWERS 26-37 More flower pics,autoboots!+y
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FLOWERS 51-62 More flower pics,autoboots!+y
FLOWERS 63-74 More flower pics,autoboots!+y
FLOWERS 75-87 More flower pics,autoboots!+y
FLOWERS 88-100 More flower pics,autoboots+y
FLOWERS 101-113 More flower pics,autoboots+y

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CCL071 MAMMALS 142-158, & INSTRUMENTS 1-4! +Y
CCL072 INSTRUMENTS 4-25 Musical! autoboots +Y
CCL073 INSTRUMENTS 26-36, MILITARY 1-6 autoboots +Y
CCL074 MILITARY 7-17,& MUSICIANS 1-4! +Y
CCL075 MUSICIANS 9 -21 Classical! autoboots! +Y
CCL076 PREHISTORIC 2-19 Dinosaurs! autoboots! +Y
CCL077 PREHISTORIC 20-25, PEOPLE 1-8 autoboots! +Y
CCL078/80 PEOPLE 9-50 Lots of people! (3 disks)+Y
CCL081 PEOPLE & Presidents, good pictures! +Y
CCL082/4 PRESIDENTS 1-40 USA presidents,3 disks +Y
CCL085 REPTILES 1-19 Good pictures autoboots! +Y
CCL086 REPTILES 19-38 More reptiles! autoboots! +Y
CCL087 REPTILES 39-50, Ships 1-9,autoboots! +Y
CCL088 SHIPS 10-33 Marine vessels! +Y
CCL089 SPORTSMEN. Various sportsmen,autoboots! +Y
CCL091 TREES, Lots of tree pictures! autoboots! +Y
CCL092 TREES, Lots more tree pics! autoboots! +Y
CCL093 TREES, And some more trees! +Y
CCL094 TREES 57-70 trees lots of tress,autoboots!+y
CCL095 TREES 71-84 more tree pictures, autoboots!+y
CCL096 TREES 85-100 even more trees,workbench!+y
CCL097/100 VEGETABLES 1-48 good pics 4 disks,workbench+y

CLASSIC CLIPART *(Black & White)*
(Okay on A1200 / A4000.)

The clipart in this collection is very high quality, huge bitmaps, many greater than an Amiga hires screen, for use in Dpaint or DTP packages, each disk autoboots as a slideshow allowing you to view the entire bitmap by moving the mouse! (Prices per disk!)

ART01 WEDDINGS Super wedding clipart, 2 disks!+
ART02 HOUSES 2 disks, pictures of mansions etc!+
ART03 RELIGIOUS 3 disks full of holy clipart!+
ART04 WWII AIRCRAFT World war II planes!+
ART05 MEN 2 disks full of men at work!+
ART06 WOMEN 2 disks full of women clips!+
ART07 KIDS 2 disks containing kids clipart!+
ART08 BUSINESS Disk full of office clipart!+
ART09 OFFICE Another office type disk!+
ART10 STUDENTS Lots of student type pics!+
ART11 SALETIME Many useful logos etc!+
ART12 XMAS 3 disks of Xmas related pics!+
ART13 PUNCH 3 disks of cartoon pics! +
ART14 ANIMALS Fantastic quality pictures!+
ART15 CATS Only 12 pics but super quality!+
ART16 SILHOUETTES 18 super silhouettes!+
ART17 SCHOOLS 2 disks of school pictures!+
ART18 BABIES Clipart on a baby theme!+
ART19 SPORT 2 disks full of sport pictures!+
ART20 OLYMPIC Another sport type disk!+
ART21 MEDICAL 2 disks full of medical clipart!+
ART22 SEALIFE Pictures from the Ocean!+
ART23 DECORATIVE MONTHS 1 for every month+
ART24 WACKY Funny comic type clipart!+
ART25 HOLIDAYS Holiday type pictures!+
ART26 BANNERS 2 disks full of banners!+

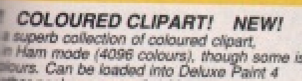
ART27 ART NOUVEAU FLOWERS Floral art!+
ART28 BUTTERFLIES Nice pictures!+
ART29 FOOD 2 disks on a food/kitchen theme!+
ART30 COLOURING BOOK Colour in Dpaint!+
ART31 BORDERS 2 disks, must load into DTP!+
ART32 MAC CLIP 2 disks high quality macart!+
ART33 HORNBACK Nice scenic clipart!+
ART34 TEDDY BEARS 2 disks of Teddy bears!+
ART35 VANITY FARE 2 disks fashion clipart!+
ART36 HALLOWEEN CLIPART Wierd clipart!+
ART37 SHOWTIME Dancing, singing etc!+
ART38 VEGGIES Vegetarian clipart!+
ART39 FLORAL 14 very detailed pictures!+
ART40 MYTHS Mythical images + zodiac!+
ART41 DOG WOODCUTS Super 300dpi pics!+
ART42 CAT WOODCUTS Great wildcat pics!+
ART43 AFRICAN WOODCUTS African animals!+
ART44 AMERICAN WOODCUTS More animals!+
ART45 ARTIC WOODCUTS Northern animals!+
ART46 FARM WOODCUTS Farm animals!+
ART47 MIXED ANIMAL WOODCUTS Nice pics!+
ART48 BIRDS WOODCUTS 18th century bird pics+
ART49 MORE ANIMALS More superb pictures!+
ART50 ANIMAL LINEART Varied selection of pics
ART51 BOTANICAL ART detailed plant pics!+
ART52 FAMILY SCENES 2 disks of domestic life!+
ART53 GOLF HUMOUR 2 amusing cartoon disks!+
ART54 SPACE & TRANSPORT On a space theme!+
ART55 SOFTSCENE2 29 rural scenery pictures!+
ART56 SPORTS3 More pics on a sports theme!+
ART57 NAVY Lots of naval type pictures!+
ART58 TRAVEL 2 disks on a travel theme!+
ART59 ALPHABET Borders & alphabet clips!+(2)
ART60 ACCENTS & FLASHES Burst stars+ more+

PROGRAMMERS : Have you written a good program, ie a utility, educational program or a game? Why not send it in for evaluation? If its really good, then you too could be earning money!!!

VALLEY PD
CU07, PO BOX 15, PETERLEE
CO. DURHAM SR8 1NZ
TEL: 091 587 1195
FAX: 091 587 1195

BLITTERCHIPS
CU07, CLIFFE HOUSE, PRIMROSE STREET, KEIGHLEY, BD21 4NB
TEL: 0535 667 469
FAX: 0535 667 469

NBS
CU07, 1 CHAIN LANE, NEWPORT
I O W , P O 3 0 5 Q A
TEL: 0983 529 594
FAX: 0983 821 599



PD SCENE

Tony Horgan peruses the public domain and gives us the lowdown on what's hot and what's not this month in the world of the weird and wonderful.

REVELATIONS

slideshow

It's tasty visuals all the way with this one. Cryptoburners have come up with a lavishly detailed slideshow packed to the brim with original artwork. Digitised slideshows are ten-a-penny these days of course, but *Revelations* features 100 per cent hand-drawn graphics.

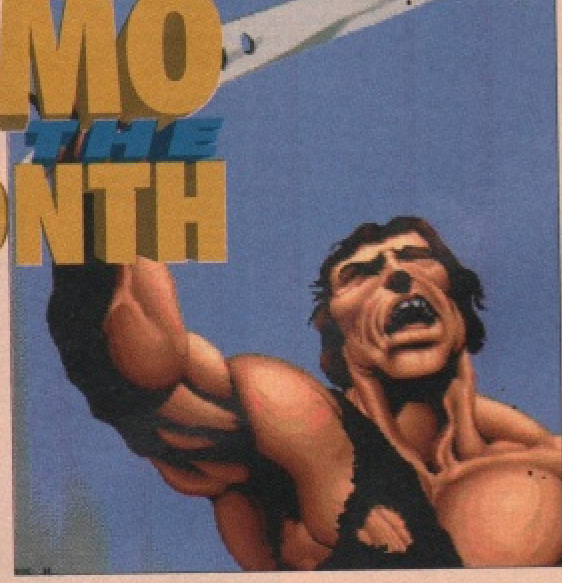
Some of the pictures take the favoured fantasy route, featuring goblins and spooky planets. A few are a little bit on the saucy side, but at least they manage to be tastefully so.

Whatever the subject though, all of the pictures are superbly drawn, and the detail on the hi-res pics is immaculate. The background tune's pretty good too – a kind of mellow, spacey, film score type of thing. Very nice.

Available from: 17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH. Tel: 0924 366882. Disk no. 2545. Price: £1.75 (including P&P). 86%

DEMO OF THE MONTH







ARTISTIC MODULATION

music demo

Nine steel toe-capped dance tracks are on the menu from Scorpio. Some of them are a bit on the experimental side, and like all good experiments, they go wrong sometimes. When they work, they're pretty powerful, with driving beats and mad sounds. The sound quality could be a lot better, but the basics of some good tunes are here. Steer clear if you're offended by abrasive beats.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 613817. Disk no. S0085. Price: £2.00 (including P&P). 78%



UCHESS

game

Requiring 4Mb of RAM, *UChess* is the first game to be written specifically for the A4000. It's one of the better looking games on the PD circuit, and although it's only two-dimensional, the pieces are well detailed and there's a good marble effect on the board. The computer puts up a good fight, even against the experienced chess player. The price you pay is that it's very slow to think out its moves, and that's with the help of an '040 processor. Apart from the lack of speed and the large memory requirements, *UChess* is very impressive indeed. A must for all chess-loving A4000 owners.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 682084. Disk no. G0097. Price: £2.00 (including P&P). 85%



DUNGEON FLIPPER

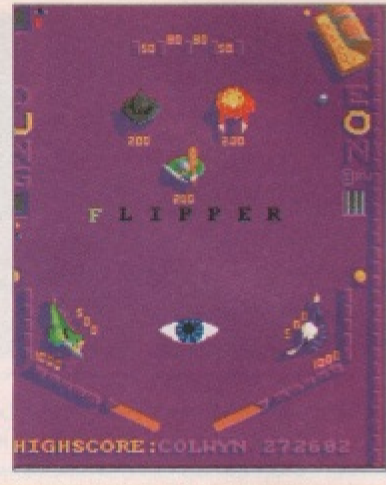
game

I thought this might have been a game about my favourite TV dolphin, but it turned out to be a pinball simulator. It's hardly in the same league as *Pinball Dreams*, but approach it with a sense of humour and it's quite a laugh.

The ball wobbles around like a half-filled water balloon, occasionally passing straight through solid objects, then bouncing off others at highly unrealistic angles. The sound effects are some of the worst I've heard, and the purple background is sickening. Despite all of this, it's not that bad a game. It would be criminal to release it as anything other than PD, but at this price it just about gets away with it.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 613817. Disk no. G0103. Price: £2.00 (including P&P).

60%



CYNOSTIC DEMO COLLECTION 3

demo compilation

No less than seven mini-demos have been crammed onto this one. First on the list is an intro from Anarchy – a simple series of vector routines with a twiddly organ tune in the background. After another set of vectors, there's a 'smalltro'. This is a demo that's confined to a window about two inches wide. It's a nice idea, but the only effect is yet another spinning cube. If you've still not had enough of cubes, there's another in the next intro, which is followed by The Race, the only game on the disk. This is just a single-screen 100 metre sprint stick waggler. Finally, there's an uneventful intro from Slipstream.

If you like spinning cubes, there's every imaginable variation here. That's fine for the vector bods, but it won't do much for the rest of us.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 682084. Disk no. D0109. Price: £2.00 (including P&P).

58%

NUMERIX

game

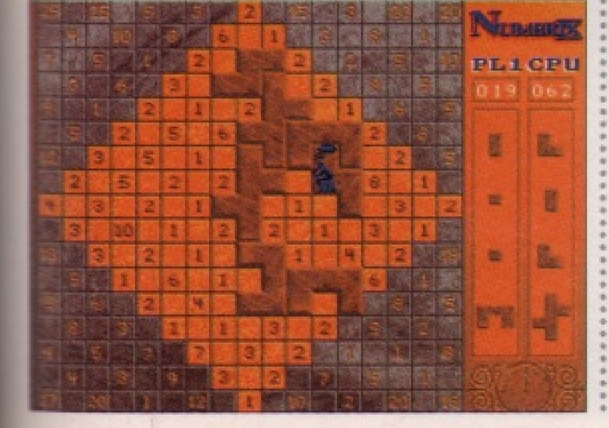
Board games or bored games? That is the question. *Numerix* could fall into either category, depending on whether you like games with squares, numbers, and not a lot else.

It's a little like playing dominoes on a *Scrabble* board, but instead of normal dominoes, the pieces look like bits from *Tetris*. Pieces can be rotated through steps of 90°, then put anywhere on the board, as long as they're adjacent to another piece. After you've scored 75 points, you're allowed to lay the pieces on the higher-scoring peripheral squares. The game ends when all the pieces have been used up.

Four different boards inject a bit of variety into the proceedings, and also double as skill levels.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 682084. Disk no. G0094. Price: £2.00 (including P&P).

65%



BEACH ANIM

animation



At the moment, most PD animations seem to be *Movie Setter* cartoons, or ray-traced sequences, but those from Carl Inc. are out on their own. The latest is a topically summery little sequence.

Like the previous Carl Inc. productions, this one takes place on a single background, and loops around indefinitely. There are loads of things going on, from the mischievous dog and the body builder in the foreground, to the animated characters in the distance . You can watch it for a while before you've seen everything, and even though the cartoon art is a bit rough, it's quite fun in a saucy seaside postcard kind of way.

Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH. Tel: 0924 366982. Disk no. 2554. Price: £1.75 (including P&P).

71%

WOODEN HEART

comic strip

It's a strange one, this one. It's a comic strip of seven pictures, digitised from hand drawn originals. The story begins with the Pope getting off a plane, where he's greeted by a mass of Elvis fans. The fans have mistaken The Pope for their idol (well, they do look so much alike), and can't escape the hysterical hordes.

So it goes on, with The Pope insisting that he's not Elvis, until he finds an adoring female fan in his bed. This causes him to break into song, with the words 'I am made of wood and I do have a wooden heart!', which I'm told is a variation on lyrics from an Elvis song. Well, the graphics are nice, even if the joke is a bit weird.

Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 0924 366982. Disk no. 2558. Price: £1.75 (including P&P).

70%



FRUIT SALAD

game

I love a good fruit salad, don't you? The tinned ones are best, with that yummy syrup and glacé cherries. Fellow fruit-fans can now indulge themselves even further, with the unofficial game-of-the-dessert: *Fruit Salad*.

A freak accident at the canning plant has turned all the fruit into crazed killers. Formerly peace-loving pears are seeking vengeance for their colleagues who suffered at the jaws of the dicing machine.

Even the bananas are showing previously hidden dark streaks. You take the role of a little blue blob (a bit like Berk from *The Trapdoor*), and it's up to you to sort the mess out.

In plain English, that boils down to a simple platform game, in which you hop around the screen collecting tokens, before leaving through the exit. The cherries and plums don't put up much of a fight, moving along short preset paths, so it's not going to tax the experienced platformer. Then again, it's devoid of any violence, and quite cute, so maybe it's one for the little 'uns.

Available from: 17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH. Tel: 0924 366882. Disk no. 2499. Price: £1.75 (including P&P).

70%



PD UTILITIES

Another batch of PD utilities come under the CU AMIGA spotlight. Mark Patterson sorts the wheat from the chaff.

TOUCH TYPING TUTOR

typing tutor

For a Licenseware release, this is surprisingly comprehensive. I expected a few simple copy-typing lessons, but there's quite a lot here for those willing to put in the effort.

Here's a quick fact for you: typewriter keyboards were actually designed to slow down the typist – the old machines used to get jammed-up if they were worked too quickly, so the keys were re-organised to make them more awkward to use – hence the seemingly random arrangement of the QWERTY keyboard.

Touch Typing Tutor helps you get around this problem by displaying a large keyboard on the screen at all times, to help you get better acquainted with the layout.

Each time you press a key, the corresponding on-screen key flashes, so you can tell which keys you've hit without looking at the real keyboard. Text appears at the top of the screen, with a pointer moving along as you hit the right keys. At the bottom of the screen, a pair of hands lets you know which finger you should be using for the current letter.

There are lessons for starters, intermediate and more advanced stages, ranging from things like 'aa ss dd ff gg', to full paragraphs on various irrelevant subjects. If you're particularly bad at hitting any one key, you can choose an exercise with a predominance of the letter of your choice. When you've completed an exercise, you can view your progress on a bar chart, with additional readouts of words-per-minute and the number of mistakes.

You'd have to put in a lot of work to really benefit, but if you want to learn to type properly, it comes highly recommended.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Tel: 0983 529594. Disk no. CLU 03. Price: £3.50 (including P&P). Memory: 1Mb. Compatibility: All Amigas.

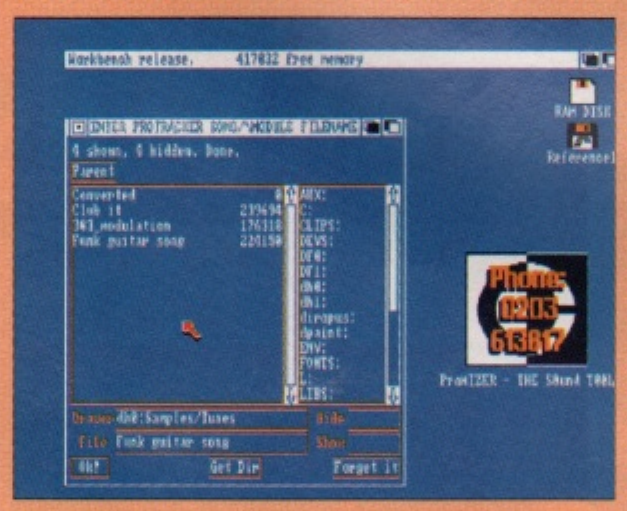


PROMIZER 1.8A

music utility

Promizer is short for *Protracker Optimiser*. If you've got a soundtrack written with *Protracker*, but find the replay routine is slowing down the rest of your game or demo, this could be the answer.

First you need a *Protracker* module. Once you've created one, you can convert it with the main *Promizer* program. This compresses it in a number of ways, the simplest being the omission of any unused patterns or samples that might still be in the file.



The patterns themselves are also compressed, and the compressed file is then saved out as a *Promizer* module.

To play the module back again, you need one of the replay routines also included on the disk.

There's a multi-tasking player, for use with Workbench, and one provided as source code for you to incorporate into your own programs. The *Promizer* replay routine is faster, and also makes it a lot harder for others to nab your modules with a ripper.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 613817. Disk no. U0106. Price: £2.00 (including P+P). Memory: 512K. Compatibility: All Amigas.

71%

FAST INTRO MAKER

boot utilities (WB 2+)

One of the best ways to add a touch of finesse to a disk is to put a boot intro on the front of it. Boot intros are small title screens that pop up the moment you put the disk into a waiting machine. They can be anything from simple text screens to full-on demos, and can be very handy when you're sifting through stacks of unmarked PD disks. *Fast Intro Maker* gives you the chance to make your own, without all the hassle of programming one from scratch.

Your intros can be made up of text, an IFF backdrop, and a *Soundtracker* music module. To make the most of it, you'll need a text editor (Ed on Workbench will do), *Deluxe Paint* and some kind of *Soundtracker* permutation that saves out standard modules. Your text, picture and soundtrack can then be loaded into the intro maker, and saved out onto your disk. If you're feeling in the mood, you can add a wobbly scroll effect to your background or the text.

It's a shame it doesn't work with 1.3 machines. It's one thing for the editor itself to require a version 2 or higher, but it should be capable of producing 1.3 compatible intros. Other than that, it's a very handy little program.

Bootjob is also included on the disk. This lets you copy bootblocks from one disk to another and save them as executable files, which can be launched from CLI without resetting the machine.

Available from: PD Soft, 1 Bryant Avenue, Southend-on-Sea, Essex, SS1 2YD. Tel: 0702 466933. Disk no. U901. Price: £3.00 (including P&P). Memory: 1Mb. Compatibility: Requires Kickstart 2.0 or higher.

68%

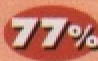
AM/FM SAMPLE DISK 12

sound samples



An off-shoot from the AM/FM disk magazine, the AM/FM sample disks are usually a safe bet for some decent samples. Previous disks have covered synth sounds, acoustic instruments and drums. This one is devoted to sound effects, with a strong horror slant. Some of the best include the gouged eyeballs (beautifully squelchy), strangulation, screams and monster growls. Some could do with a bit of editing to cut out blank spots, and a few need to be amplified about 200-300 per cent, but there's a good range of interesting and original sounds here, so that's excusable. It's worth a shot for game and demo coders, and anyone who wants to add a bit of spook to their soundtracks.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 613817. Disk no. S0100. Price: £2.25 (including P&P). Memory: 512K. Compatibility: All Amigas.



MONEY PROGRAM

account manager

For the novice user, getting results from *Lotus*-derivative packages is a daunting prospect. This is where the *Money Program* comes in. The selling point of the package is its ease of use. Data is entered in several easy-to-follow steps then combined and displayed on one screen. You can then update the information and view it in several different forms. Two sets of accounts can be compared head-to-head to let you check discrepancies between two periods.

Despite being easy to use, the *Money Program* just doesn't offer enough features to give it the edge over the competition. The presentation is simple and the data entry system can't hope to match up to that of *Easy Calc*. What it does have is a number of different graph options, so you can view your information as a bar chart or standard graph. While these features are nice, they can't possibly compensate for its lack of power when compared to some other titles.



Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 613817. Disk No U0109. Compatibility: All Amigas.

70%

VIDEO APPLICATIONS

video gadgets

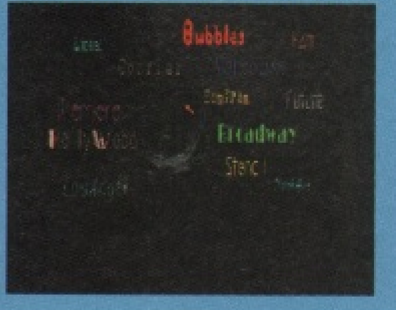
There's no cheap alternative to a genlock, but with *Video Applications* there's now a low-cost way of getting hold of the software.

The two disks are packed full of just about every piece of video-related software you could need. There are two titling packages, one for headlines and one for general text. These are backed up with a modest library of fonts, including Los Angeles and Courier.

For more fancy effects there are a number of animation packages, including the latest version of *ShowANIM 5.3*.



All the packages come with their own docs, although these sometimes assume that you know exactly what they're on about, so you're left to find your own way through a package.



To cap it all there's a video cataloguer for keeping a record of your tapes and a time code log to store lists of edits. These seem insignificant at first, but are actually extremely useful.

Although some of the applications are not as detailed as their full price counterparts, all the necessary packages are here to get you started with video titling. One thing is certain – you'll be hard pressed to find a better bargain than this one this summer.

Available from Galactik PD, 10 Crugan Avenue, Kinmel Bay, Clwyd, North Wales, LL18 5DG. Price: £3.00 Disk No U071. Compatibility: All Amigas.

90%

FAKE FASTMEM

memory Utility

Despite the relatively low price of memory upgrades these days, not all of us can afford to stuff a couple of extra meg in to our machines. This is where utilities such as *Fake Fastmem* come in handy.

It takes the first 512K of RAM, converts it to Chip then takes the rest and labels it as fast RAM. This enables you to run all those Fast Ram only programs you've always wanted as it fools them into thinking you've got the correct RAM setup. For instance, running the program on an A1200 gives you 512K of Chip RAM and 1.5Mb of Fast Ram. Naturally you need to have a least one meg spare in order to use it.

Running the software couldn't be simpler. You simply chuck the disk in the drive, wait for the information text to disappear, and when the machine resets you put your application disk in.

It's very likely that this program will not work with some packages, but in the mean time it's certainly a lot cheaper than buying extra memory.

Available from: Cynostic PD, 85 Wyken Croft Road, Coventry, CV2 3AD. Tel: 0203 613817. Disk No U0141. Compatibility: All Amigas.

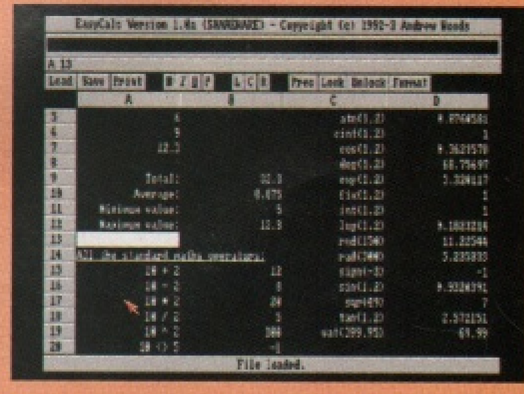
86%

EASY CALC

account manager

Underneath the unfriendly exterior of *Easy Calc* is a professional quality spread sheet package, albeit without the frills.

Its roots lie in *Lotus 1-2-3*, the popular PC spreadsheet package. The screen is divided into a number of boxes, called cells, into which you enter data. You can then tell the computer to tally up a specified group of cells, or perform some other mathematical calculation using the available categories.



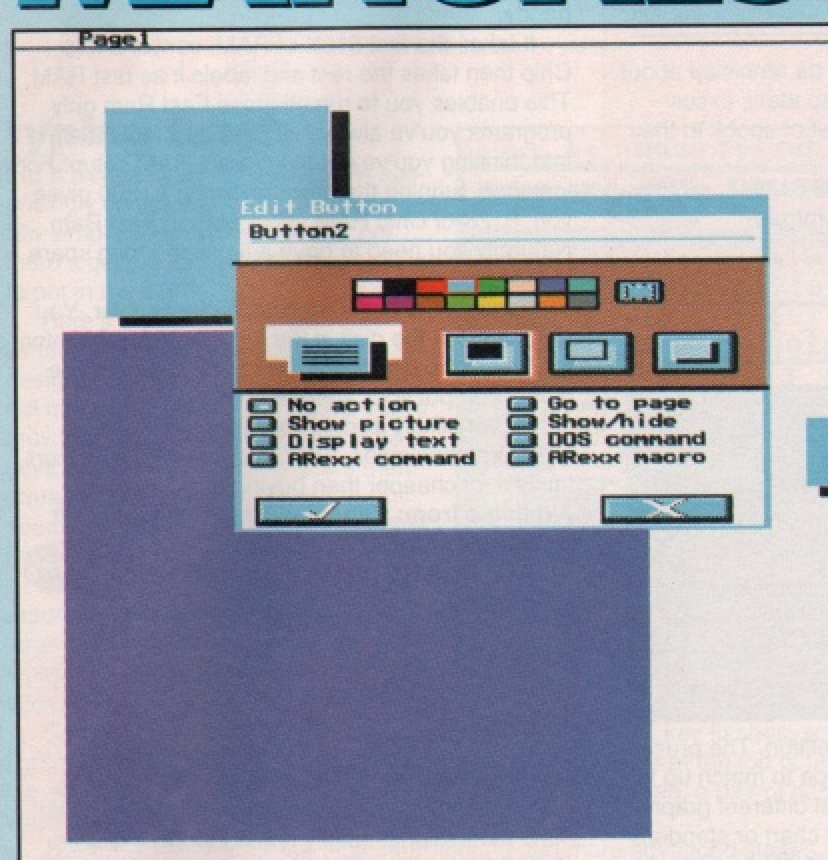
Once you get the hang of it, *Easy Calc* is very simple to use. It encompasses enough functions to keep the most hardened ninja bookkeeper happy for months. The registration fee of £15 does seem a bit steep, although it does entitle you to access the user helpline plus software updates. Cost aside this is a very effective package, although if you're not familiar with this format of spreadsheet you could find yourself struggling at first.

Available from 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire, WF1 1DH. Tel: 0924 366982. Disk no. 2507. Price: £2.00 (including P&P). Compatibility: All Amigas.

87%

HYPERBOOK MANUALS!

ONLY £14.99





Having got your hands on the megatastic and popmungous *Hyperbook* software it will not be long before you experience a strange yearning to possess the associated firmware – the *Hyperbook* manuals.

Enter the true spirit of multimedia – see the program and buy the books! The first manual explains in intricate detail every aspect of every menu and tool in the program. It is full of helpful advice and explanations which not only show you what to do, but why you are doing it.

The second half of this manual details the ARexx port and all the commands available from it – invaluable if you plan to do anything adventurous. This software probably has the most comprehensive ARexx support of any application known to the Amiga, and the only place to find out all the commands available and how to use them is in this book.

And that's not all. The second manual is a guide to creating your own applications. Full of ideas for the office and home, it'll have you creating everything from cookery books to interactive databases.

And all this can be yours for the incredibly toothsome price of just £14.99 (including VAT). Just fill in the coupon below and pop it off to those jolly nice chaps at Silica and they'll do the rest. As if by magic your manuals will be delivered to the comfort of your own home – isn't technology wonderful? And remember, this offer is not available in any record shops.



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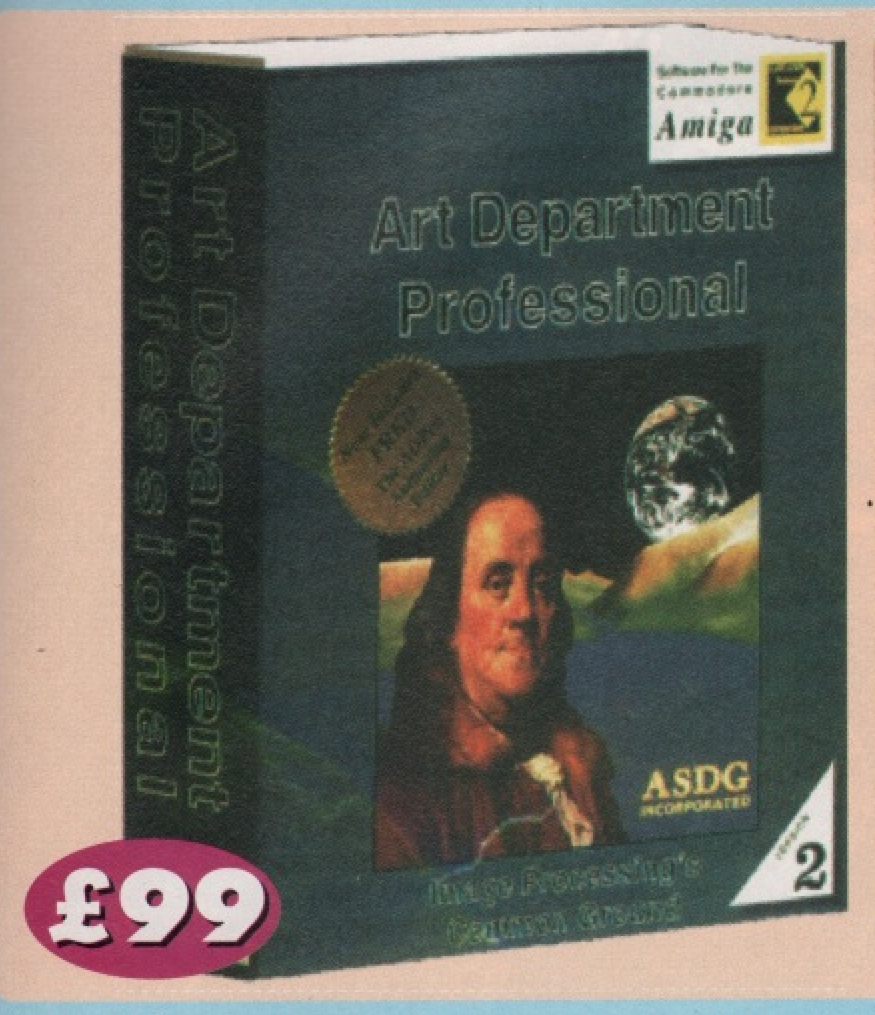
....

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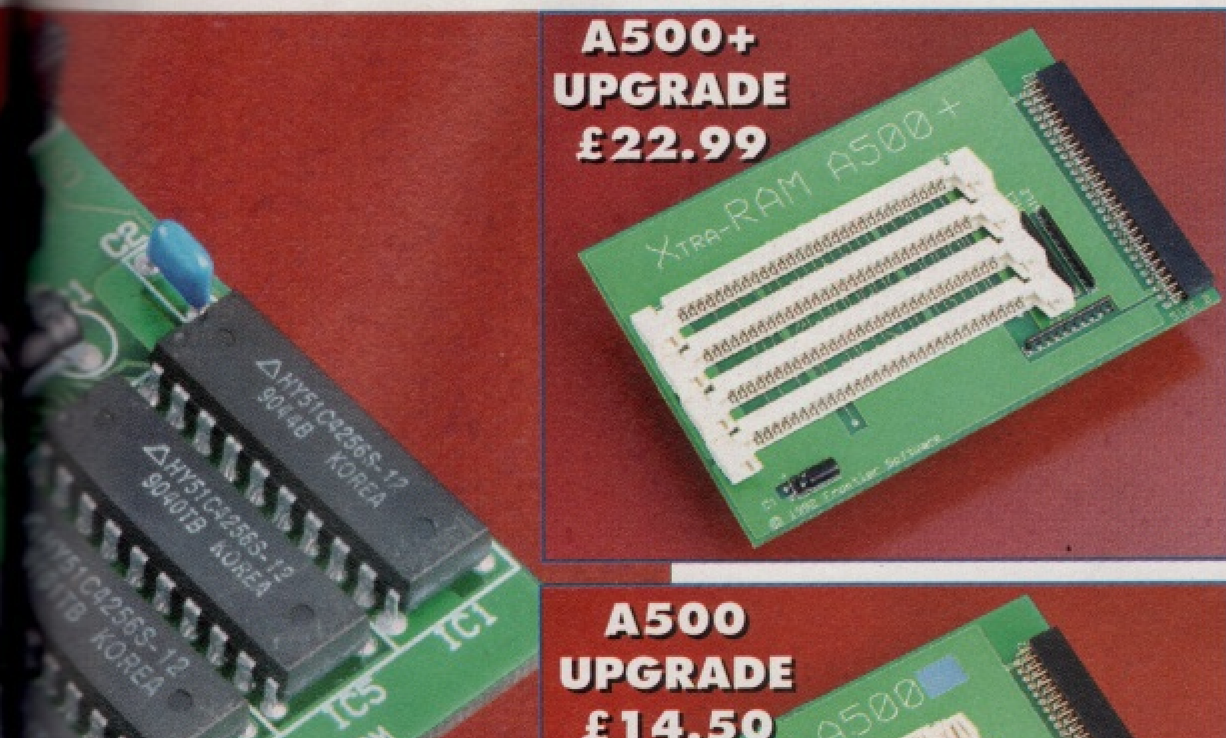
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Sorry but this offer is only open to UK residents. Fulfilment by: Go Direct, 7 Vinegar Hill, Alconbury Weston, Huntingdon, Cambs, PE17 5JA.

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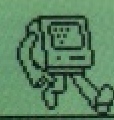
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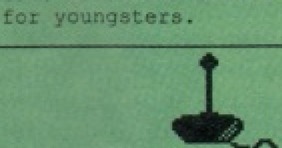




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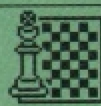
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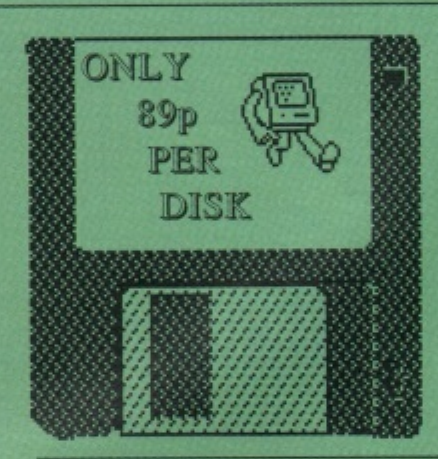


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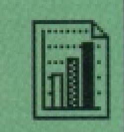


TOP DEMOS

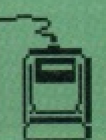
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M123 KAOS THEORY - Five hardcore tracks.
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A127 DOLPHIN DREAMS - Beautiful animations.
M084 GATES OF PAGAN - Inspired music disk. V.good.
A093 5 WAYS TO KILL A MOLE - Ten really.

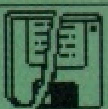
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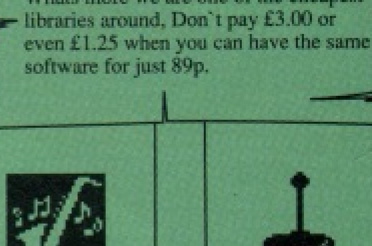


TOP UTILITIES

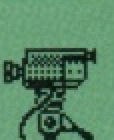
U215 FREECOPY v1.8 - Removes protection from 60+ commercial games.
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U009 C-LIGHT - A former commercial Ray-Tracing package, released as public domain software.
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U137 ELECRO CAD - Circuit board designer.
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U186 MED 3.21 - The most popular music sequencer available. We can also provide you with loads of instrument disks - See catalogue.
U178 COMPOSER - Traditional music making with staves and notes.

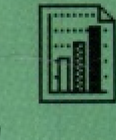
EDUCATION

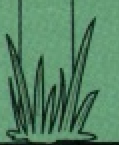
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E022 SPANISH/FRENCH/GERMAN/ITALIAN TUTORS - Four language tutors.
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E012 EVO - Follow the evolution of man from 20 million years ago.
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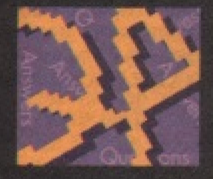


ALL DISKS ARE COMPATIBLE WITH ALL AMIGA'S UNLESS STATED OTHERWISE.

AMIGA Workshop

ISSUE 7 JULY 1993

Amiga Workshop is here to help you get the most from your Amiga. It's packed to the spine with tutorials, step-by-step guides, questions and, more importantly, answers. For the absolute best in Amiga info, look no further than these very pages.



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ART06 Women 2 disks full of women! +
ART08 Business-office clip art (2disks)+
ART07 Kids clip art (2 disks)+
ART09 Office- more of the same+
ART10 Students clip art+
ART11 Saletime-Useful stuff inc.logos +
ART12 Xmas - a bit of xmas cheer

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UU029 Tarot II-Read your own stars (2 disks)
U384 Cyclops V1.0 Art creation package. Create Plasms etc(+)
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U528 Multiplayer-Claims to be the most powerful, versatile music player for theAmiga (+)
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U325 Label Maker-Make your own labels
UU030 Understanding Amos-tutorial (+)
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U306 Strictly PD Essential collection (4 disks) -Jam packed with utilities, games, music creators and printer utils.
UU001 A-Graph-Very easy to use-Make bar & line graphs+ pie charts
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N009 Henry in Panic - Jet Set Willy clone (+)
N010 Mister& Missis- Amusing and cute platform /arcade adventure with two characters to control Excellent fun!(+)
N012 Caloriebase- Recieved 89% in CUAmiga. Keep a daily database of your calorie intake. Useful for dieters (+)
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Under the spotlight this month are the latest words of wisdom from a very close quarter...

AMIGA GAMER'S GUIDE
BRUCE SMITH BOOKS £14.95

Are you fed up with hunting frantically through your back issues, trying desperately to find that all-important hint or cheat? Where do you go from Angarahn Village in *Ishar*? Is there a foolproof way of scoring in *Kick Off 2*? Have you just dug out a copy of Psygnosis' *Blood Money* and want to have infinite lives? Stop tearing your hair out, for help is at hand. Bruce Smith Books, that smashing bunch who seem to have a book to cover every eventuality, from a beginners' guide to Amiga BASIC to an in depth exploration of the A1200, have come up with the answer to your prayers in the form of *The Amiga Gamer's Guide*, an indispensable reference work spanning the entire Amiga games history.

Written and edited by some bloke who goes by the name of Dan Slingsby – you may have heard of him – the book draws on his three years' experience as editor of your favourite Amiga magazine and even longer as a dedicated games player,





or so the introduction says, so if there's one thing you can be sure of, it's the quality and accuracy of the information contained in the 360-page tome.

The aims behind the book are simple ones. Firstly it aims to introduce you to the best Amiga software around from classic old titles such as *Shadow Of The Beast* right up to *Streetfighter 2*, so in one sense it's perfect for the new consumer, armed with a new Amiga, a pocket of notes and almost no idea of what they're looking for.

Secondly, the book aims to be a complete guide to over 300 Amiga games, so if you're already an experienced user, you're bound to find something to please you here.

The book breaks down into two distinct segments. The first, and weightiest, contains in-depth players' guides and complete solutions to 26 popular Amiga titles, from *Lure Of The Temptress* to *Microprose Formula One Grand Prix*, taking in a wide spectrum along the way. Each of the games has been heavily researched (if the bags that appeared under Dan's eyes just before Christmas are anything to go by!) with each game getting between eight and 20 pages. In turn, each of the games are broken down, with full descriptions of the games themselves, hints, walk-throughs, level guides, helpful hints, annotated screenshots and, of course, the most comprehensive collection of cheats available. Whenever possible, Dan has contacted the programmers and developers of the games, to get as much inside info as is humanly possible without actually printing the source code! For example, the 17-page *Putty* guide covers each and every level, tells you exactly what each enemy is capable of and how best to avoid them, complete with detailed screenshots. How much more help do you need?

If a solution is available for a game, as is the case with *Monkey Island 2* and *Lure Of The Temptress*, the book takes from the first screen, explaining exactly what needs to be done and when. No more 'collect the trowel from a nearby screen and dig in the ground'. The equivalent here would be 'walk right three screens and find the trowel at the bottom of the barrel. Walk back left again and dig at the base of the tree.'

For games that don't have solutions, like *Putty* and *Microprose Formula One Grand Prix*, Dan has come up with strategy guides and helpful information. In the case of *Grand Prix*, a handy cheat on some races is to leap over the grass verges on chicanes which will gain you a couple of seconds or even a position or two! This sort of information, while not exactly vital to the smooth running of your game, can definitely improve your performance, thereby increasing your enjoyment of the product.

The second segment of the book is a full and exhaustive guide of Amiga cheats, going from *Action Fighter* at one end to *Z-Out* at the other. It doesn't cover every game released, but then not every game has a cheat mode! As well as cheats, Dan has also included level codes where possible, so it's a safe bet that whatever you need help on, you'll find it here!

Don't expect to find too much new stuff in the way of cheats and codes. Almost everything released has had tips and cheats printed before, and this doesn't aim to reveal any hidden secrets. Instead it provides you with the sort of player information that enables you to get more out of a game. Completing a game with a cheat mode on is all very well, but you can't beat the satisfaction of finishing a game without a cheat.

Computer games can sometimes be cryptic, and entering cheats more so – just ask a console-owning friend! With this in mind, Dan has written the book as concisely and clearly as possible, with full explanations and nothing left to the imagination. It's all written in his own humorous style, and neither patronises nor baffles the reader with jargon. All in all, it's a very readable book.

A lot of thought has gone into the layout too, and it has really paid off. Thanks to the use of titled side straps and the title of the game running across the top of the page, it's easy to locate the help that you're after.

All is not rosy, though. The games chosen for the in-depth section are varied, but there does seem to be a lean towards the more arcade end of the market. Personally, I would have liked to have seen some strategy guides for, say, *F15 Strike Eagle 2* or *Sim Earth*, but that's just a matter of taste. Maybe a sequel is in order?

Also, there is no mention of the formats that the games run on, Some of the titles included are a few years old, and it is completely possible that these will not run on an A1200. Still, with so many games appearing on budget now, there's no reason why it should be a problem to find out.

We all know what you're thinking as you read this, after all it is quite possible that this is a heavily biased review. However, we would like to point out that this review was written with no bias whatsoever, and that the gun that is currently being pointed at my head is merely a courtesy detail supplied by the editor to help the flow of creativity. If you still think we're being biased, then check the book for yourself.

For now though, if you want the most comprehensive Amiga tips collection around, and have had more than your fair share of scanning through hundreds of back issues in your attic, then pop out and get a copy of this.

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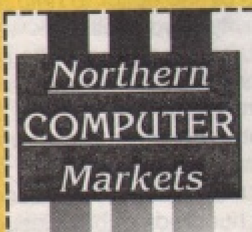
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Well, once again Tony Dillon was the lucky one who got to curl up on his sofa with a cold drink and a large box of popcorn while everyone else stayed slaving away at their hot-to-melting-point monitors.

THE HISTORY OF THE AMIGA
TECH MEDIA £8.99

How much do you know about that little machine that gives you so much pleasure? Did you realise that the original Amiga was called Lorraine? Or that when the prototype was built, Agnus sat on eight full-size motherboards, each containing around 250 chips? Or that Jay Miner's dog was the deciding factor in including a line draw in the intuition library? You can find out about all this and more in the latest Amiga World video that re-unites the team that created the Amiga to find out how it all happened.

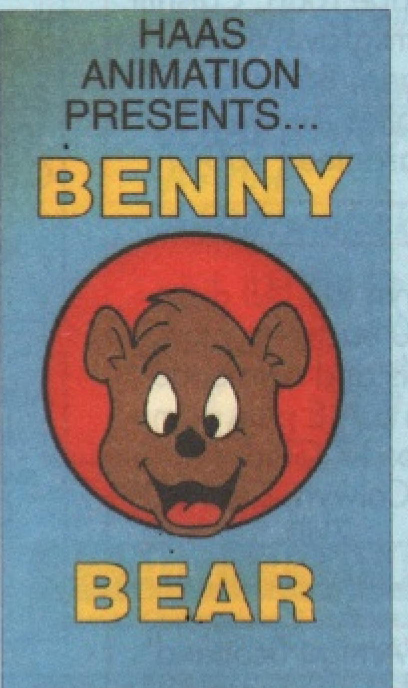
The 45-minute tape runs between the fascinating and tedious, the incredible and the laughable and, unfortunately, the good old American knack of spoiling everything by getting far too emotional. The fact that the team felt like more than family throughout the creation process is driven home time and time again, and at one point head of software RJ Mical looks too close to tears for comfort.

The anecdotes told vary from the interesting and humorous (the tale of the bouncing ball), to the tediously 'in-jokey' as in the tale of the 256/512K memory argument. If you can sit through the 'stand up comedy' routines, then you'll find a real gem of a story in here, somewhere.

Available from: Burgess Video Group, Unit 6, Industrial Estate, Brecon, Powys, Wales, LD3 8LA. Tel: 0874 611633.

BENNY BEAR
HAAS ANIMATION £8.99

This is a very unusual video. It doesn't contain any information at all, nor does it teach you anything you need to know. The 30-minute cassette features nothing more than the cartoon adventures of Benny The Bear (Yogi without the accent) and some shorts starring Scrap Cat. What does this have to do with the Amiga? Nothing, I just like cartoons.



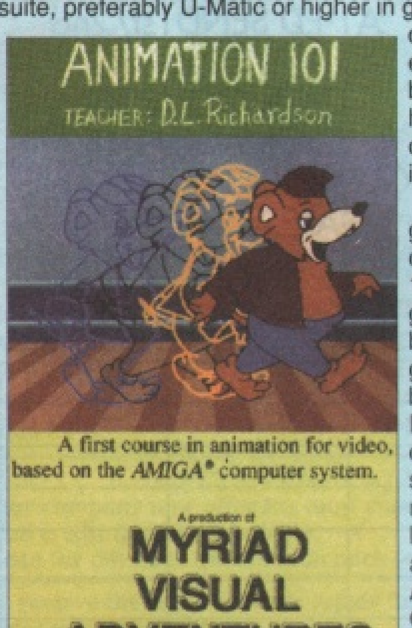
Only joking. In fact all of the cartoons were drawn on an Amiga with *Deluxe Paint* by one Jeff Haas, then recorded to tape. A voice-over track was added and finally a music score. The end result is a cartoon so professional, you'd be pressed to tell it was ever drawn on computer. After watching it for a couple of seconds, I had to keep checking the screen to make sure I could still make out the jaggies – it really is that good.

As cartoons, they're not too bad either. Amusing storylines run alongside the sometimes too simplistic artwork, and the music track makes it all the more authentic. Is this really the future of Hanna Barbera? Scooby Doo is already drawn on computer, so who can tell?

Available from: Burgess Video Group, Unit 6, Industrial Estate, Brecon, Powys, Wales, LD3 8LA. Tel: 0874 611633.

ANIMATION 101
MVA £12.99

Yes, it's another animation tutorial video, only this one has a more unusual slant. Instead of the snappy Californian voice-over, this one features a tank-top wearing 50-year old from Oklahoma who is willing to show you what you can do if you're a complete beginner, have access to at least six different art packages, a video camera, a basic genlock and a professional video editing suite, preferably U-Matic or higher in grade. An Amiga 2000 with a hard drive and 5 MB of RAM will also enable you to duplicate the rather basic looking animations he creates in his own mysterious way. By mysterious, I mean there's a hell of a lot he isn't telling you.



The video features two programmes – the fabulous looking but completely confused and useless Part 1 and the just as confused but staggeringly dull Part 2. Part 1 features the basics of animation, such as how to get your mouse to look like a mouse by putting a furry dust cover on it, and Part 2 shows you how almost anything can be done with colour cycling, from snakes that ripple to perfectly symmetrical spaceships that have things that look like rippling snakes wrapped around them.

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HOW TO ANIMATE – PART ONE
RAZZA £10.99

Yet another in the long line of Amiga World videos dealing with Amiga graphics, this time showing you how to animate using *Deluxe Paint IV* and *Imagine V2.0*. Although not exclusive to these two packages, the examples and tutorials shown do have a heavy bias towards them, so be warned!

In this brief (50 minutes) video, you'll find a very quick history of animation, a rundown of classic animation methods and a short overview of the kinds of packages available to Amiga owners. This rather basic opening gives the impression that the video is aimed at the complete beginner, which poses the question of why run a tutorial on *Imagine 2.0*?



Still, once past the learners' section you get down to the meaty stuff, which disappointingly only features two tutorials. The first, on *Deluxe Paint*, shows how to create a moving starfield (apparently, the starfield can't actually be seen due to the low-quality recording) with an unconvincing rotating asteroid overlaid. The second, run through very quickly, shows you how to use pre-drawn Imagine objects to create a static rendered scene which is then rotated.

Not the most informative of tapes, but novices will find it interesting.

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DELUXE PAINT PART 6

Colorisation is a technique for turning great old black and white movies into money-making freaks. But on the Amiga, where you desperately need a colour image and only have a black and white original, it's a way of saving your bacon. You can use either the Translucency effect with a high setting, and red as your foreground colour to achieve the effect shown here. But the best way is to select Tint from the effects menu. Lips, eye colour, skin tones – all can be done to perfection without major and costly cosmetic surgery.. .

This month's *DPaint* tutorial ventures into the psychedelic world of 4096 colour HAM mode. Leading the trip is our art expert Peter Lee.

Though there were lots of improvements to the fourth version of *DeluxePaint*, the biggest thrill for most users was the inclusion of HAM painting. This is because HAM (Hold and Modify) mode allows you to use all of the Amiga's 4096 displayable colours on screen at once.

Electronic Arts weren't the first to master this tricky obstacle – but by managing to cleverly absorb HAM into their existing *DPaint* structure they were guaranteed to maintain the loyalty of users who cut their teeth on this legendary graphics packages.

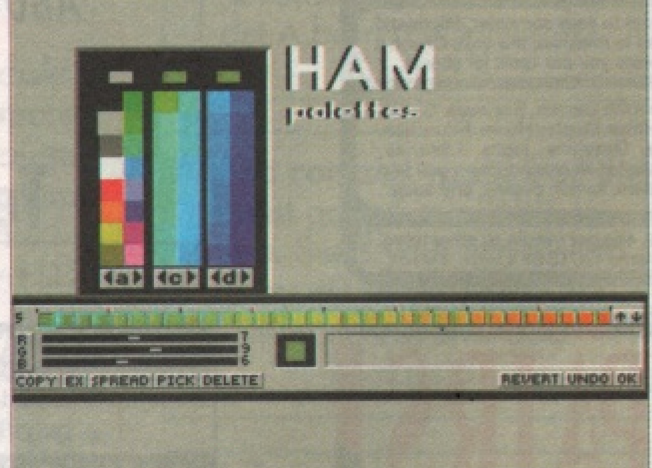
But it's one thing to have HAM, and another to make it work to your advantage. This isn't a problem with *DPaint;* HAM drawing rivals such as the excellent *PhotonPaint* or gifted *SpectaColour* were there first, and being dedicated to this mother of all modes they managed to work miracles. But the shortcomings are all too apparent.

Speed, for instance, is a drawback. On a regular Amiga, shifting over 4,000 colours around in 6 bit-planes makes a Post Office queue seem fast. And then there's the fringing. Sure, you can try to minimise the problem of stray edge-colours forming a pattern on the picture. But if you're drawing a subtle work of art on your Amiga, the last thing you need is a Rave show of psychedelic colours.

So who needs HAM with all this pain? Anyone interested in the subtleties and challenge offered by such a vast palette, but particularly when you are working with digitised images. Colour digitisers can capture images in HAM mode, and often you will want to incorporate them into your own work, or edit them. In either case HAM, with all its shortcomings, is better than nothing. The difference between images drawn in any other regular Amiga mode and HAM are all too apparent. Try converting a 4096 colour picture to 32 colours, or even halfbrite mode (with its 64 colours), and see the degradation of it all...

IN PRACTICE

Despite the vast range of colours at your disposal, the most important are the first 16, as shown in palette toolbox <a>. These are the master hues, and are the most flexible; if you have been following this series, you will have become familiar with pre-planning – get your palette right before you start. And nowhere is this more important than in HAM mode. If you intend to do any precision editing, pixel by pixel, then you must think ahead and give the <a> palette the colours you will be concentrating on. This may sound like a tall order, but it will save a lot of fringing pain later on.



DPaint's palette control is only slightly more complicated in HAM mode than in the regular modes. Although the tools menu still only shows 16 colours at any one time, you can scroll through banks of these by clicking on the arrows (labelled alphabetically) at the bottom of the colour boxes. The banks don't fill with colours automatically – you have to define some after the first 16. To do this, call up the palette requestor (lower image), and define individual colours, or spreads, using the HSV or RGB controls (which we covered in our tutorial on colours). Thirty two colours are shown in the horizontal palette on the top of this requestor, and you can access more slots for colour by clicking on the small arrows on the extreme right of the requester. As you do so the number of the current bank is updated on the far left of the requestor. If you need a specific blend of colours – say a mid-range hue between red and white, you can use the mixing area which takes up most of the mid portion of the requestor.

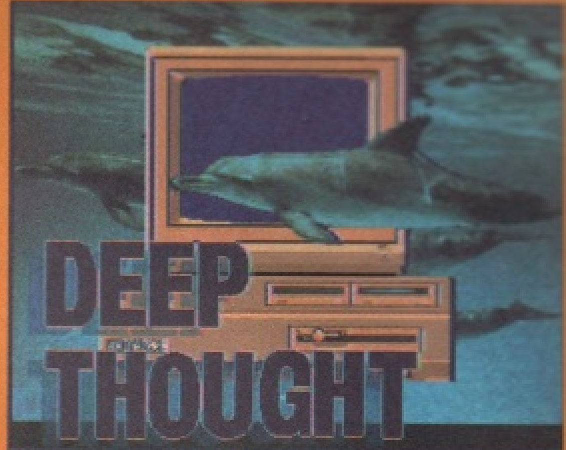
Editing the palette in HAM mode is similar to other *DPaint IV* modes, except there are more colours available. Pressing P on the keyboard, or right-clicking the foreground colour box in the toolbox brings up the colour requestor at the bottom of the screen. Selecting any of the colours in the squares activates it, and edits can be made by sliding the control panel to the left. Initially this allows changes in the Red Green and Blue components of the chosen colour. But by clicking on the word RGB you change the emphasis to Hue Saturation and Value. We covered the functions of these controls in our tutorial on Colour. The condensed Readers' Digest definition is that RGB alters the various colour combinations which go to make up the colour, while HSV alters the actual colour, its concentration and brightness.

The reason why the first 16 colours are so vital is that they are the only ones which can be painted on screen without affecting any other adjacent colours; all other 4080 colours are displayed on screen by the Amiga copying the colour



One of the real joys of HAM mode is the ability to use images from several sources, each with their own palette, and blend them seamlessly with one another. This image is comprised of a black and white picture of a spiral galaxy as the background. I then drew the artistic inter-galactic cloudy bits and moody stars before loading in a separate picture of the moon and reducing it in size, to act as a small foreground planet. Buzz Aldrin was clipped from yet another image, and his palette re-mapped to match the main picture. Finally the text was added, using colours in the main band of 16 to avoid any ugly fringing.

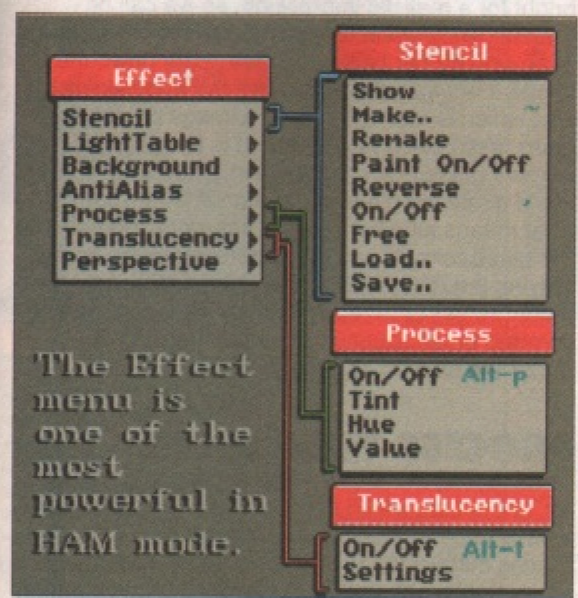




Being able to manipulate images in eye-catching ways is one of the joys of DPaint's HAM mode. Surreal ideas are given free rein thanks to the adaptability of the display mode, and the program's versatility. Using DPaint's brush creation tool I cut around the creature in the foreground, and saved it as a brush. Then I loaded in the Amiga 2000, and re-mapped its colours to that of the main image before pasting it on the scene. After loading in the dolphin brush I was able to position in 'in front' of the computer to give a feeling of perspective. And as for the text, I typed that on the spare screen before cutting it out as a brush and positioning it exactly where it looked best.

Above: The picture may fade, but the memory of wacko comic John Belushi lives on... Using Translucency settings in HAM mode gives subtle, semi-transparent effects. Here a range of settings shows how Belushi can disappear right before your eyes whilst still maintaining his colour co-ordination.

An at-a-glance guide to the main effects menus outlined in the tutorial. Get to know these, and they'll be your friends for life.



of the pixel to the left of it and modifying its RGB content. One snag with this is that HAM can only change one of the RGB attributes per pixel, so it could take up to three pixels for the colour you want to be displayed correctly. And the wicked light-show which sometimes happens in between start and end pixel sometimes causes fringing. Not a pretty sight, but one which can be minimised by either going for a more suitable colour (one which doesn't take three pixels for the transformation) or using one of the first 16 colours. Another little snag with this mode is that if you are painting on screen with a non <a> palette colour, then you stand a good chance of affecting the colour to the right of where you're painting as well as to the left. This is because the program has to recompute the colour to the right from the colour you've just put down on top. *TIP* – You may find when using tools which display lines on screen (brush, rectangle draw etc.) that the actual tool lines cause irritating fringing (or ramping). In this case you can often cut down on the effect by activating Fast Feedback from the Preferences pull-down menu. This disregards whatever brush you have selected, and instead

COLOURFUL SOLUTIONS

Editing colours in HAM mode can make Nightmare on Elm Street look like Eldorado. And for once DPaint IV doesn't give you the kind of finesse you find in other drawing modes. Take the example of wanting to change a particular colour in your image – say from dark green to light green. In any other mode you can simply call up the palette requester and amend the RGB values to suit. But, unless you're dealing with the first 16 colours of the HAM palette, this just won't work in HAM because the remainder of the colours aren't fixed by the palette. There is a way around this – convoluted, slow and pedantic though it is. In the Colour menu there is an option labelled BG->FG. Simply, when activated, this will swap whatever your current foreground colour is with the current background colour everywhere on screen. Similarly the adjacent colour menu option BG<->FG will work a similar trick, but in addition will make every instance of the background colour change into the foreground colour as well - a straight swap, if you like.

works with pixel-thick lines. Even so, some fringing may occur, but it will not be as grotesque as if you were using a custom or preset brush.

PAIN BARRIER

The real plus of using *DPaint*'s HAM mode is in the drawing manipulation the program offers. From stunning brush effects and perspective control, *DPaint* actually makes HAM worthwhile in spite of its annoyances. You can do everything in HAM which you can in standard modes, which is a hell of a lot. OK, it's slower – even a screen clear takes seconds – but you gain the kind of subtleties which just aren't available on any other home computer at this kind of price.

While translucency works after a fashion in other modes, it really comes into its own in HAM, where the palette gives the program the chance to find the optimum colours for the transparency value selected. The same is true for tinting existing images, and using either facility it's possible to colourise grey-scale images. In practical terms this gives owners of cheap and cheerful black and white digitisers the benefits of capturing a crisp 16-colour grey scale image, then adding lifelike colour via *DPaint*.

CUT IT OUT

One of the few areas where *DPaint* has to handle graphic manipulation differently is in Stencilling. In less complicated modes this is handled with ease, just point to a colour in the palette or on screen



Using the Stencil feature in HAM is slow and slightly involved; here's the kind of view you get when part of the image has been made into a stencil. The stencil requestor itself is simple to operate given that HAM is the mother of all modes, but you may still have to spend some time tweaking things to get exactly the colours you want highlighted. The miniature image to the lower left is one I added to show how the picture actually looks.

»



HAM, being blessed with 4096 colours, allows for some subtle techniques. This isn't one of them, but it shows how one image can be radically altered to suit your needs. This tiger leaps out of the foliage in broad daylight...



... while this one does his leaping at night. Creating day-for-night transitions is simple – select black as the foreground colour, change translucency to a high number and draw a filled rectangle over your image. The picture will darken, and you can control to what extent by altering the translucency settings. Incidentally, this is also a great technique for shadows, which can be realistically created over the most complex of images.

MAKING USE OF MEMORY

If you have enough memory then this tip's for you. I have fitted out my A2000 with loads of RAM and like to make the best use of it by multitasking several programs at once. There is absolutely no reason why you can't have *DPaint IV* running concurrently with itself. Why? I can hear you ask. Well as I mentioned HAM mode is slooow. Even when it comes to easy-peasy jobs such as text printing, or simple image rotation. But if you run *DPaint* in low resolution at the same time as *DPaint* in HAM mode, you can easily switch between the programmes and, for instance, write your text in 32 colour mode, performing any outlining or rotation there. Save the image as a brush to either RAM (if you have plenty) or disk, then load it back into the HAM version of *DPaint*. It may sound convoluted, but I've found that it is quicker than having the HAM mode do the work from scratch, and it gives you something to do instead of waiting around like an ST owner.

» and protect it. Life in HAM is not so easy, although the Stencil requestor is greatly simplified. The main control you now have is to give a tolerance value based on the currently selected colour. This tells *DPaint* to select your chosen colour, plus any other colours whose RGB attributes lay within the tolerance level you set. In this way you can hope to hit a range of colours you need to either protect or remove. This is great in theory, but in practice you will have to strike a balance between the tolerance level and the number of colours you protect. For instance, take a range of blues making up a sky scene. Adjust the tolerance too far and you could end up with some colours appearing which you don't want to select. In this case the best option is trial and error. You can always see which colours are selected for the stencil by clicking on the Show button. This dims the screen image and highlights the colours stencilled. If you have missed out part of your range, you can lock more colours until the ones you needed to be chosen are included. To lock a colour, simply select it from your screen image by left-clicking the mouse button while the pointer is on it. Be warned though, this process takes time! In a bid to try and make this shotgun-type approach more subtle, *DPaint* offers a fine-tune function in the HAM stencil requestor. This useful addition allows you to manually select with the mouse single colours within your image either to protect or free, regardless of the tolerance level. In this way the process, combining protecting and freeing based on tolerances and fine-tuning gives you complete control over the HAM stencil.

REFLECT ON THIS

I mentioned reflections earlier – these are a piece of cake for HAM mode. These can be simple mirror-surface images, or more complex contoured shapes which then take on some of the mystery of ray-traced objects. By now you should be familiar with brush manipulation, and that's all you need to know to get a perfect reflection of an object. Take a glass-topped coffee table as an example. There may be fruit, a vase and book on the top, and we need to see their reflection on the surface. Cut out the objects as they stand, and flip the brush vertically by pressing Y. At this point the colours are too bright for a realistic impression, so we call on Translucency again. By giving the brush a setting of around 60 per cent, when we paste down the image it will have less than half the original intensity, which is about right for an image on smoked glass. You may find your brush is too large for the amount of table you have drawn. In this case you could make the glass surface an inverted stencil (that means all other colours are protected except the glass colour), and then paste down the brush, leaving the rest of the image untouched. *TIP* – For more professional reflections, try shearing the inverted brush slightly before painting it down under the original objects.



The visor of the helmet reflects both the image of the jet, and the glow from the HUD (Heads-up display). The main image of the plane was clipped as a brush, then with the WRAP option in the fill requester selected, I used the fill tool to 'pour' the image into the space of the visor. The HUD was drawn as a series of straight lines on the spare screen in green, then bent vertically as a brush to give the right curvature to use in the curved visor. With translucency set to 50% it was painted on top of the visor to give a ghostly, semi-transparent look. The same technique was applied to the aiming sight on the main picture, and to a number of the red darts.

PROCESS YOUR IDEAS

The process menu gives you access to a wonderful Tint option, which like Translucency will colorise what's under the colour you are painting with. Tinting colours in HAM mode is independent of your chosen palette; in standard modes you had to be really clever in creating ranges of colours for the program to use when colourising an image. But in HAM any of the 4096 colours is readily available. The Process/Tint options allow some startling effects to be created; take mist on a mountain peak for instance, or any reflective object. The mist can be as thick as you like, depending on your translucency settings. Hue can perform a similar transformation; it doesn't work at all with greyscale images because they totally lack colour saturation. The final Process option is Value, which is purpose-made for making dark areas light, and light areas dark, depending on your brush colour. Once you've mastered these features everything else should come with ease. CU

NEXT MONTH

Pete really gets things moving when he makes his first foray into the stunning features of *DPaint*'s animation power. There'll be advice for *DPaint III* and *IV* owners on how to get the action animated on your Amiga, plus lots more tips and tactics to help become a DPaint expert.

WORKBENCH TUTORIAL

Roy Ferguson discovers the missing link between the CLI and Icons. Plus some handy hints on making the most of your WIMP.

PART 5

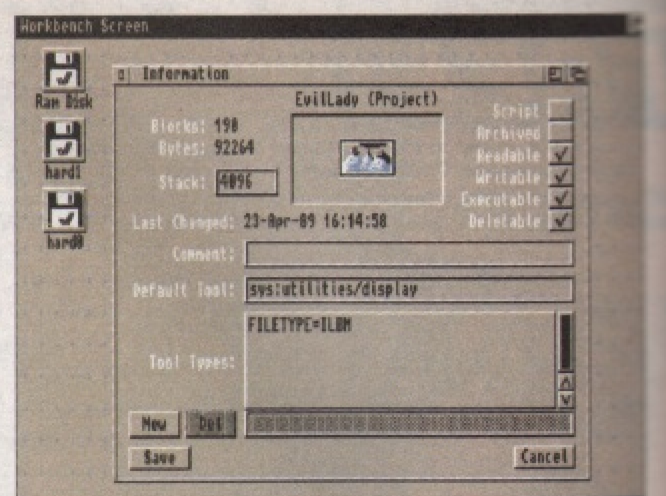
Now that you're an expert CLI user, or at least you can open a CLI and type DIR without suffering a nervous breakdown, you might be wondering about all those files which have appeared on your disk ending in the .info suffix. Where did they come from, are they important and why are they there? are all common questions.

You might also have wondered why some files on the Workbench are 'invisible' in that they don't seem to have any icons. Could there possibly be a link between these two strange phenomena?

Open a CLI and type DIR to get a list of your Workbench disk. You'll notice a large number of files with (dir) after them, followed by a collection of files ending in that .info pattern.

Closer inspection will reveal that the drawer (or directory – that's what 'dir' means) called C doesn't have an .info file, whereas the drawer called tools does. As predicted, when you open the Workbench disk's window with a double click, the C drawer can't be seen but Tools is right up there.

If you are still running Workbench 1.3 – and you should seriously consider upgrading if you are – you will only be able to see the invisible files such as C from the CLI. You will not be able to display them as icons on the Workbench if they have no .info file, and will therefore be unable to drag them around or click on them to open or run them.



The information screen gives lots of secret information on icons. In this example we have doctored the default tool to be the Display program provided with Workbench 2. Now when Save is selected and the icon is double clicked, the picture will appear on-screen automatically.

With IconEdit there is no excuse for drab icons. You can even use Paint programs to create special brushes – in this case part of an image digitised with Vidi. If you use an 8 or 16 colour Workbench the results are even better.

Workbench versions 2 and 3 have a menu option which will make these invisible files crystal clear – it's in the Window Menu and is called 'Show'. The default setting is 'Only Icons' but the other setting is 'All Files' and this will display files with or without icons. It will display a normal drawer icon for directories, and creates a dummy icon – in the shape of a hammer for some reason – for other files. When you use the other Workbench menu option 'View by Name' the .info filename is not listed to avoid cluttering the display.

Although Workbench 1.3 users cannot see a file unless it has an icon, there is nothing to stop them making their own. For example, you may have a desire to be able to see the C directory in your Workbench.

Copying icons is also possible for Workbench 2 users, and goes like this:

1. Open a shell (or CLI)
2. Copy the .info file from a similar icon to Ram Disk. For example, to create a new drawer, copy tools.info. From the CLI you would type something like this:
COPY SYS:TOOLS.INFO RAM:
3. Rename the .info in the Ram disk.
RENAME RAM:TOOLS.INFO RAM:C.INFO
4. Copy the new .info file back.
COPY RAM:C.INFO SYS:
5. Close and open the Window in which the icon will appear.
6. Find the new icon (it will be overlapping the TOOLS icon), drag it away and select SNAPSHOT

from the menu to log its new position.

You may want to customise the icon by making it a new colour or shape, and for this you can use the program called IconEdit which lives in the Tools drawer on the Workbench.

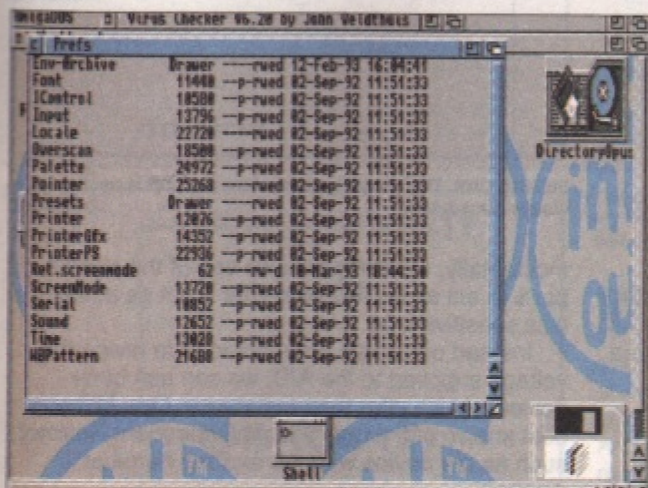
With this program you load in the directory's or program's icon, mess around with it, and then save it back out. You can also create an icon from scratch if you wish, but remember to select its type before you save it (for example, drawer or tool).

MULTIPLE CHOICE

Whilst we are still on the subject of icons, you may not be aware of the sneaky ways you can highlight more than one icon at once. Why would you want to do this? Well, imagine a scenario whereby you need to copy 10 files to a floppy disk. You could highlight them one at a time and then drag them over, but it's much simpler to select them all at once and then drag'n'drop.

Highlighting more than one icon is achieved by using either Shift key and the mouse buttons together. Start by holding down Shift, and then click on as many icons as you want with the left mouse button. If you accidentally click on an icon you didn't want, keep the shift key down, press and hold the left mouse button and click with the right. It sounds complicated, but you'll soon get the hang of it.

Many Workbench files lack an 'info' file and cannot normally be seen.



If you find that you are repeatedly 'double-clicking' and so opening drawers and running programs, you might want to alter the double-click speed from the Preferences option.

Workbench 2 and 3 users also have the option of drawing a line around a series of icons in order to highlight them. Simply click with the left mouse button on any part of the window not taken up with an icon, and move the pointer so that the flashing lines surround the icons you want. Let go of the mouse button and all the enclosed icons will become highlighted. If you quickly want all the icons highlighted, hold down the right Amiga key and press A.

When copying a group of highlighted icons, you must remember to keep the shift key pressed at all times. Then mouse the pointer over the location you wish to deposit the files and let go of the mouse button.

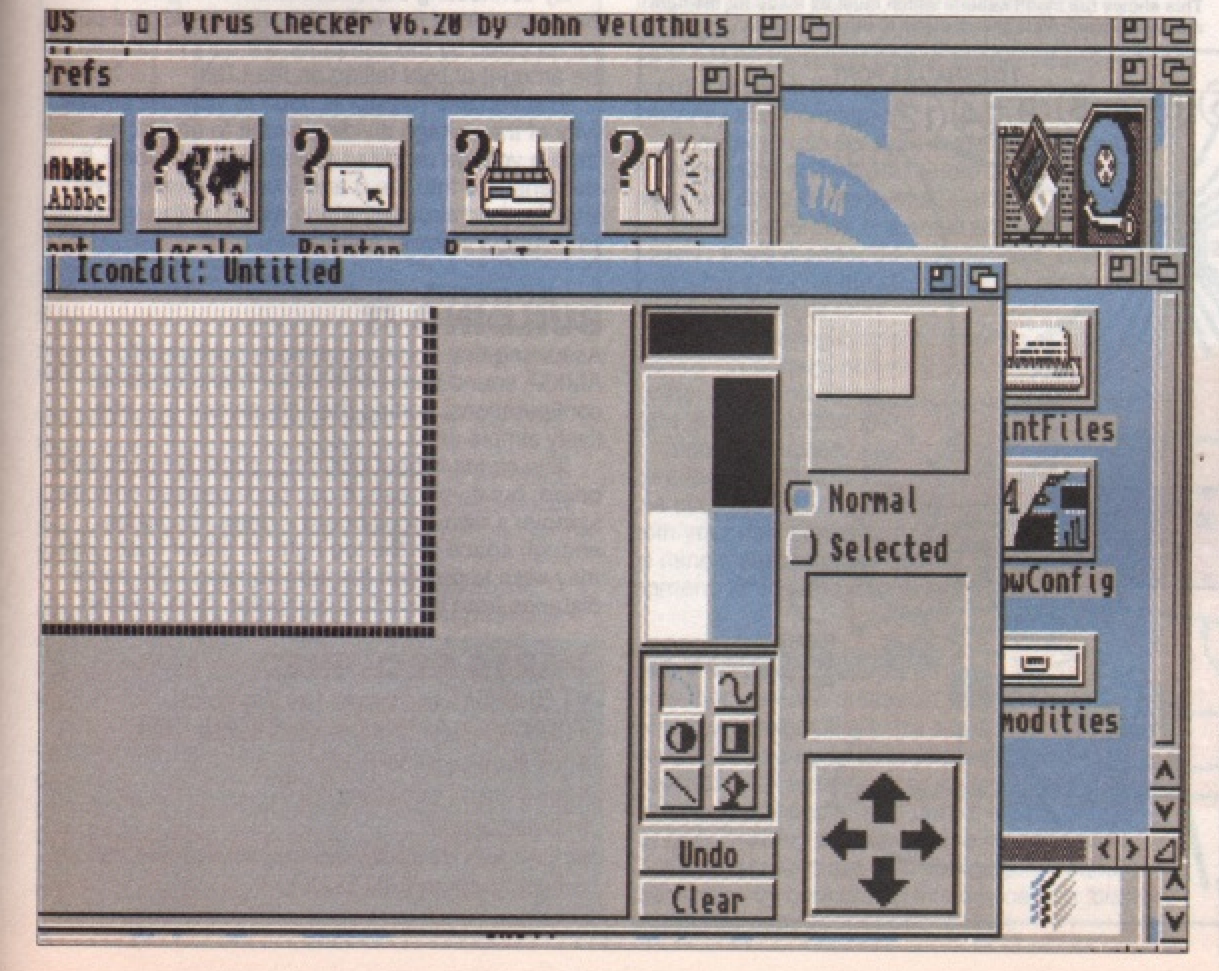
PASSING ICONS

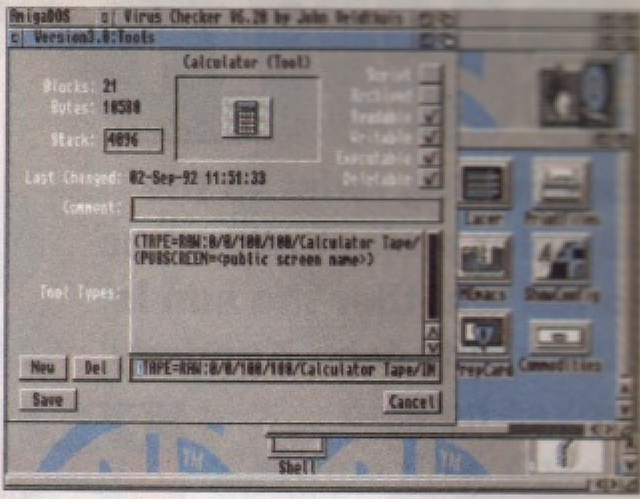
Sounds painful, doesn't it? Don't worry – it's just a way of speeding up the loading process of some programs. For example, say you had a picture created with *Deluxe Paint* stored on your machine, complete with icon.

One way to look at this program is to load *DPaint*, load the picture and then get rid of the menu and tool bars – hardly spontaneous. A better way is to make use of a custom picture display utility. Workbench 2 users have 'Display', Workbench 3 users have 'multiview' and Workbench 1.3 users – well, they'll just have to look around their public domain disks until they find something like the archaic VILBM or state-of-the-art ViewTech.

In any case, there is a really simple way of launching these programs and viewing your picture. The first step is to get the icon for the picture and the icon for the picture viewer on-screen at the same time. Obviously if they are on the same disk this won't be a problem. If they're not, and you only have one drive and no hard drive, you might have to copy the viewer (or the picture) to the Ram Disk first.

Below: With IconEdit you can even change the default images for disks, projects and the rest.





Tool types transfer useful information to the program when it is run.

Anyway, with both icons on-screen, highlight the picture icon and with the Shift key held down, double-click on the viewer. The viewing program will load and accept the picture icon as the image to show – and hey presto! one image on screen and no messing with paint packages or CLI commands.

Workbench 2 has built on this principle and allows a great deal more flexibility. For example, if IconEdit is running and you highlight an icon, drag it over the IconEdit and drop it, IconEdit will immediately load that icon. Similarly some programs, such as *WordWorth* or *Quarterback*, will open a 'deposit' icon on the Workbench screen. By dropping an icon onto this region, the main program will load or process the required directory or file.

DEFAULT INFO

Going back to that picture created with *Deluxe Paint*, the icon which accompanies it contains some secret information. To read this hidden message, highlight the icon and select Info (Wb1.3) or Information (Wb2, Wb3).

If the icon is of the correct type – a project – there should be a box with the name 'Default Tool'. It's inside this box that some optional information about the program which created the file is stored. With *DPaint*, it will probably look something like DeluxePaintIII:Dpaint.

If you were to double-click on this icon, the Amiga's operating system would look for the logical device called DeluxePaintIII: (see last month's tutorial about devices) and try to load a program called *DPaint*.

If you have another picture showing the program, you might want to change this – simply click in the box and type the full path and name of your viewer. For example, on WB2 machines this would be SYS:utilities/display. In this way you could create your own slide-show disk quite simply. Copy all your pictures onto one floppy, alter their icons to have an image display program as the default tool and then snap-shot them into a nice tidy pattern. Why not alter the icons to a miniature version of the picture for that really professional touch? CU

NEXT MONTH

Next month we'll be looking at how to edit your startup-sequence and customise your Workbench.

BUILD YOUR OWN SAMPLER

An amazing twist to the sampler project allows us to tell whether the sun is out or not! John Kennedy proves he's no slouch with solder...

PART 3

The sound sampling circuit we painstakingly built in the May issue is an incredibly useful device. At the heart of the sampler is an Analogue to Digital convertor – an IC that can convert constantly changing signals (sound as sounds) into the digital format preferred by computers.

The A/D chip works by looking at the voltage level supplied to its sense pin. This voltage can vary from 0 (ground) to 5 volts, and the digital output supplied to the Amiga will vary in turn from 0 to 255. The A/D is said to be an 8-bit convertor.

Although we have used the A/D only as a sound sampler up till now, this month we shall branch out into more esoteric uses – the simplest of which is a light meter.

A WORD OF WARNING

We want you to enjoy building your project, so please take the time to read these warnings.

Although the project described here has been built and tested, neither the author nor CU AMIGA can be held responsible for any damage which may be caused to either yourself or your computer as a result of using it. As no mains voltages are required in this circuit, it is extremely unlikely that you could electrocute yourself, but you should still take care. If your computer does not behave normally when the project is connected, switch off immediately. Check the circuit carefully for short circuits and wiring deficiencies. Always add or remove the parallel port connector with the computer switched off.

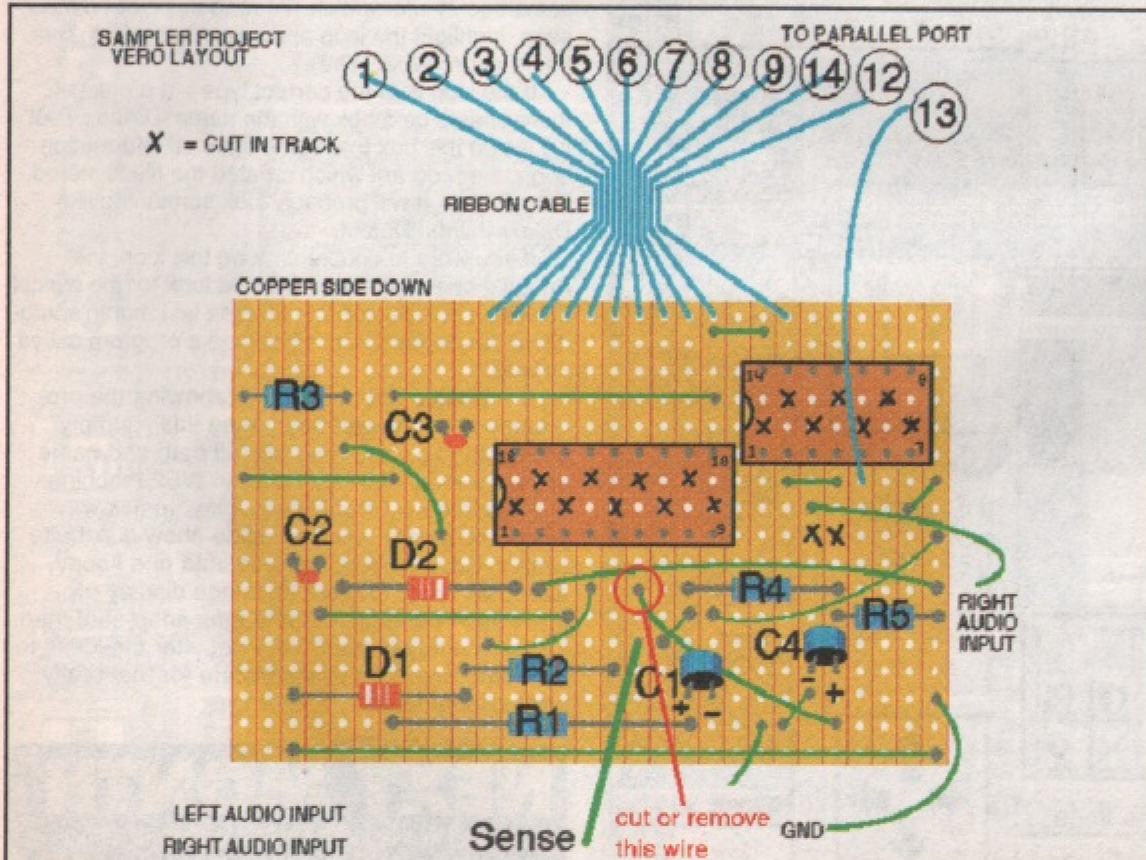
Never leave the soldering iron unattended, and always switch it off when it's not in use. It is all too easy to forget about it and then pick it up by the wrong end several hours later. If possible, wear protective eye-gear when soldering and use a vice or clamp to hold the circuit in place. Never splash hot solder around.

HOW IT WORKS

As stated previously, the sampler needs an input on its sense pin in the form of a voltage in the range 0 to 5 volts. We can produce a voltage in this range by using a voltage dividing circuit, such as figure 1. Depending on the value of the potentiometer, the voltage will vary from 0 to 5 volts, and the digital output will swing from 0 to 255.

Such a circuit could be used, for example, to add a steering wheel or aeroplane control stick to your computer, although you would unfortunately have to write your own software to make use of it.

This shows the modifications which must be made for the light module to work. Note the changes to pin 6 on the IC.



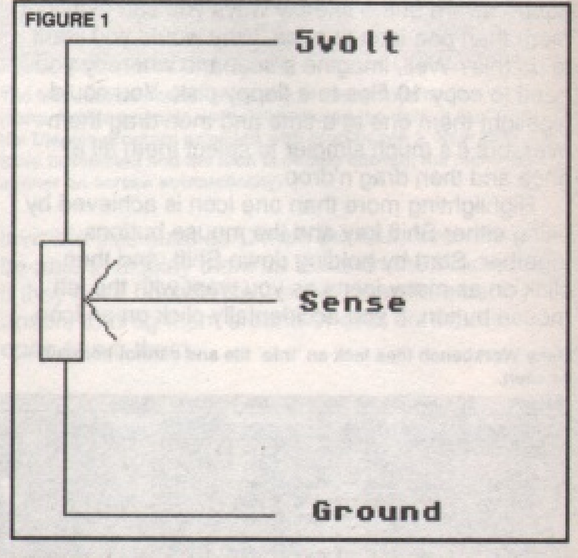


FIGURE ONE. This diagram shows how the LDR is used as a simple transducer.

Incidentally, the Amiga allows one of the joystick ports to act as an A/D convertor – but as a much less sensitive kind.

Instead of using a potentiometer to divide the voltage supplied to the A/D, we can use other devices which alter their resistance. One of the best known of these is a Light Dependant Resistor, such as the device with the exciting name of 'ORP12'.

By connecting the circuit shown in figure 2 to the sense pin of the A/D convertor, the digital output received by the computer will vary in relation to the amount of light falling on the LDR.

The variable resistor is used to vary the sensitivity of the voltage dividing circuit to ensure as large a voltage range as possible is produced. It also ensures that the 0 and 5 volt lines are never directly short circuited which would not be good for your Amiga's power supply.

BUILDING IT

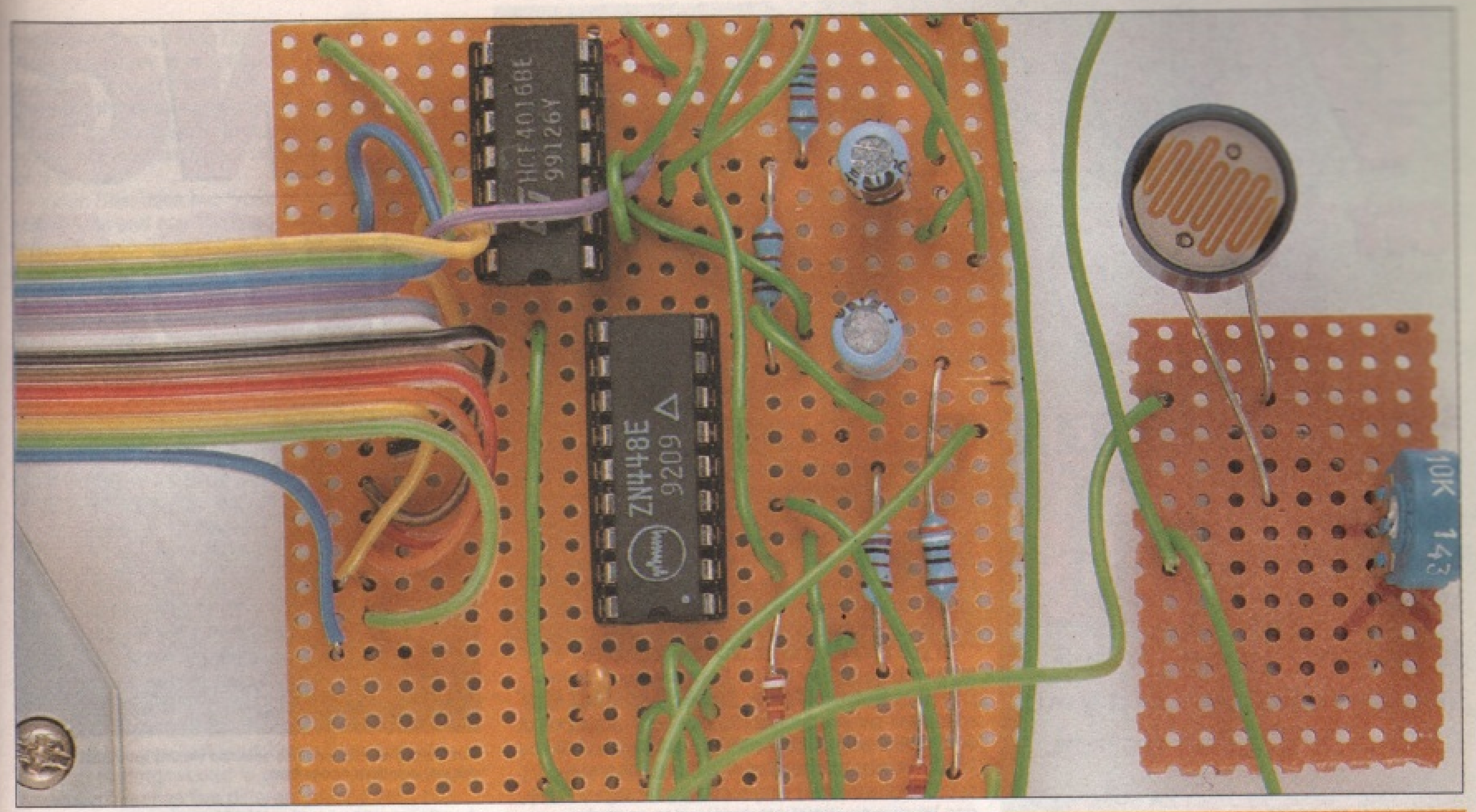
Assuming that you have already built the CU AMIGA sound sampler in either mono or stereo configurations, adding the light sensor is a relatively simple affair.

The circuit is best built on a small scrap of vero-board, but if you wish, it can be squeezed onto the sampler's own circuit board – there should be enough space on the top right. In either case, you may wish to position the light sensing LDR some distance from the actual computer. If so, extend

PARTS REQUIRED

- 1 CU AMIGA sound sampler (see May's issue).
- ORP12 or similar Light Dependant Resistor (LDR).
- 10K minature pre-set resistor.
- Small scrap of vero-board.
- Connecting leads.

All these parts are readily available from electronics stockists or from Maplins on 0702 552961.



The modifications to last month's board are fairly minor – simply remove the wire connecting the audio filter to the ADC chip and connect the light meter circuit to pin 6.

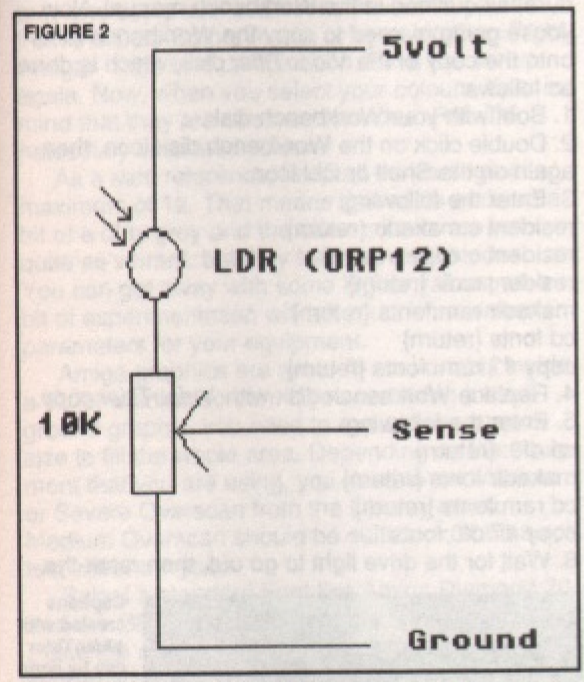


FIGURE TWO. A practical light transducer using a light dependent resistor and a balancing variable resistor.

the two leads from the LDR itself rather than the three wires from the sampling circuit.

There is one alteration that needs to be made to the CU sampler: find pin 6 in the IC, and notice the wire connected from here to another part of the board.

This wire carriers the filtered and balanced sound input, and is connected to several resistors and a capacitor. If the stereo sampling circuit is being used the signal travels through another IC as well.

In order for the light sensor to work correctly, you will need to remove this wire and solder on a new one. I suggest that you use a switch that will permit you to select whether you will be using the circuit as a sound sampler or a light meter. Although the Amiga is multitasking, it is not possible for this circuit to do both at the same time!

IN USE

When you have made up the light sensor board and attached it to the sampler board, give it a final check. There should be three wires connecting the boards – a ground, a connection to pin 6 of the A/D and a connection to 5 volts. Rotate the pre-set resistor to its mid-way position.

Switch off your Amiga and plug the sampler into the parallel port. If, after switching on, you don't see the familiar booting screens SWITCH OFF IMMEDIATELY! Check to see if the 5 volt and ground lines on the light sensor have been inadvertantly short-circuited.

In order to use the light meter, you will need some special software as audio sampling packages will not provide useful results.

On the coverdisk is a small program called LIGHT. It will monitor the parallel port, and display a moving graph of the input light. To run it, simply double click on its icon.

If all is working properly, a series of lines will appear on-screen, scrolling from right to left. The further down the screen the lines appear, the more light is falling on the LDR.

You may have to adjust the pre-set resistor to give the largest possible range of values. When the circuit is working properly you can experiment with your new sensors. Applications which spring to mind include burglar alarms, photograph development, timing and counting systems.

BEYOND SIGHT

Now that we have mastered adding sensors to the circuit, you might like to try a few others. A thermistor, for example, changes resistance depending on temperature. A similar circuit based on this device could form part of a control system for beer brewing or greenhouse management.

Other sensors are available which measure pressure – by connecting this device to a 'bladder' it could be used to measure weight. CU

DIY PROGRAMMING

The trick to reading the value from the parallel port is one address: 0xbfe101. All you need to do is peek this CIAA chip register and the current value will be returned.

Here is a snippit of C code from which you can create your own applications:

```
/* ** ** Parallel Peeking C Program ** */

/* Normal system includes */
#include <stdio.h>
#include <exec/types.h>

/* The address of the parallel port */
#define Reg-in 0xbfe101


main() {
/* Variables */
UBYTE *In,sample; int a;

/* Set up address in a pointer variable */
In=(UBYTE *)Reg_in;

/* Perform the operation 100 times */
for (a=0;a<100;a++) {
/* Get the parallel port value */
        sample=(UBYTE)*In;

/* Display it on screen */
printf("Value:%d\n",(int)sample);
}}
```

NEXT MONTH

Next month we'll be taking a break from the sampler project, but again it will be DIY with a music slant. On the drawing board will be a MIDI port which is very useful and surprisingly easy to build, so keep your Black & Deckers oiled and ready...

VIDEO TITLING ON YOUR AMIGA

Starting this month, Jim Strutton, head of the Amiga Video Producers Group, helps you get started with your Amiga and video set-up.





The Amiga is the ideal tool for creating reasonably priced videos of an acceptable quality. In this series we'll show you how to make the most of your Amiga's video editing facilities. There are various methods of getting an Amiga graphic onto video tape. For users of the Amiga 500, 500+, 600 and 1200, the basic hardware all comes in the box. You can transfer the Amiga picture to video tape using the supplied modulator. The quality is not, however, going to be great.

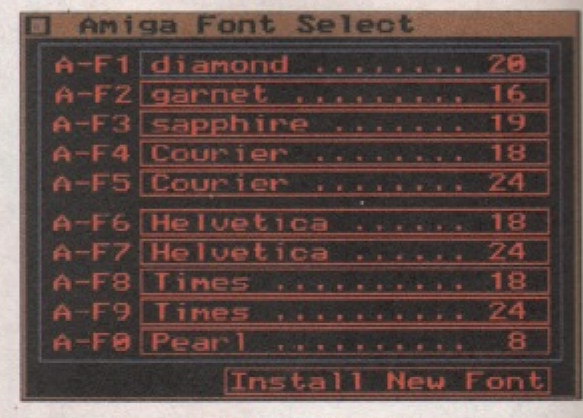
If you only want to record Amiga graphics to tape, you could buy a PAL Encoder, such as the CP-10 from Amiga Centre Scotland (089 687 583) which will set you back £165 plus VAT. This box of electronics plugs into the RGB port on the Amiga and converts, or encodes, the three separate colour signals into a single composite signal. This can be directly input into most video recorders, either through a video input socket or using the multiple socket on the back of some video machines called a SCART or EuroSocket.

In some ways the excellent DCTV device from Digital Creations, which is actually a display enhancer,acts a PAL encoder as it outputs composite video and the signal can be directly recorded.

We are going to look at putting either an Amiga-only graphic onto tape, or putting an image over a video signal direct from the camera. Apart from the Amiga and either a modulator or a GenLock, you will also need a copy of *VideoTitler*, given away with the February issue of CU AMIGA.

VIDEOTITLER

The first thing you need to do is back up your copy of *VideoTitler*, as we'll be making some changes to it. Copy it with the usual Workbench copy procedure, as outlined in the Workbench manual. Now you're going to need to copy the Workbench fonts onto the copy of the *VideoTitler* disk, which is done as follows:



Fonts and their sizes can be selected via this interface. You can use any standard Amiga font.

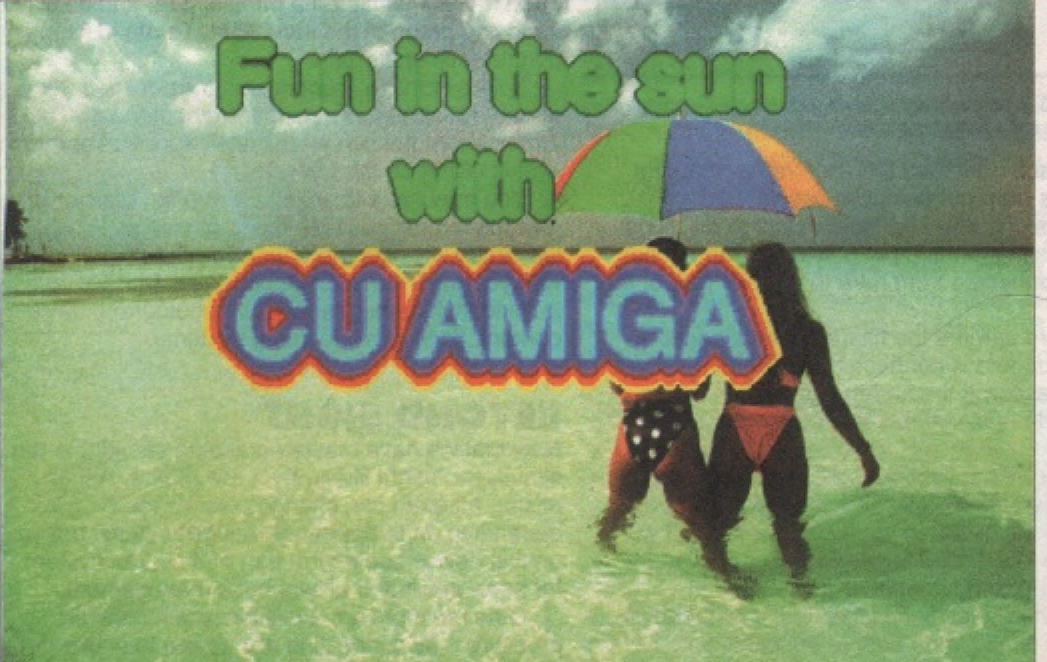
1. Boot with your Workbench disk.
2. Double click on the Workbench disk icon, then again on the Shell or CLI icon.
3. Enter the following:

resident c:makedir {return}
resident c:copy {return}
resident c:dir {return}
makedir ram:fonts {return}
cd fonts {return}
copy #? ram: fonts {return}

4. Replace Workbench disk with *VideoTitler* copy.
5. Enter the following:

cd df0: {return}
makedir fonts {return}
cd ram:fonts {return}
copy #? df0:fonts

6. Wait for the drive light to go out, then reset the



Captions created with *VideoTitler* can be composited onto still images for slideshow presentations and the like. *Art Department* or even *DPaint* is capable of overlaying the images.

AMIGA VIDEO PRODUCERS GROUP

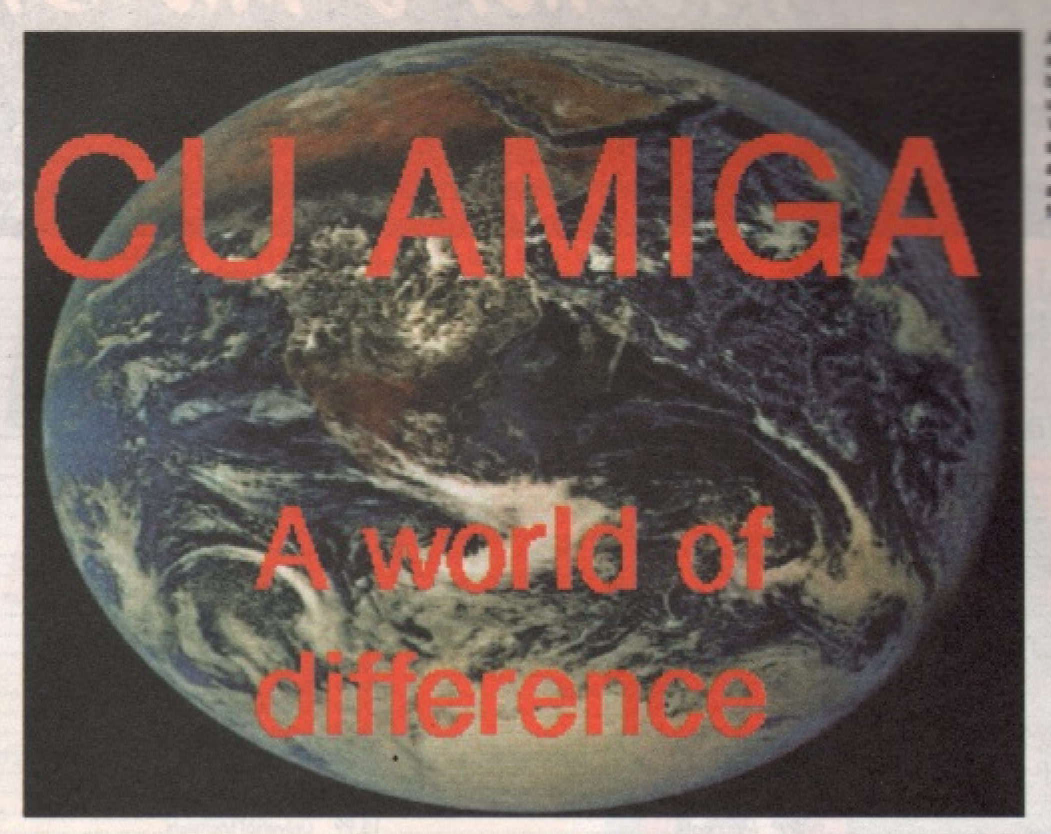
The AVPG are a collection of around 60 amateur and semi-professional video makers with one key link – they all use Amigas in one way or another. The group first met around 18 months ago, and their shared experience and knowledge has made them a formidable force in video production. Who else would we ask to write a series on video production than the experts?

machine with the *VideoTitler* disk still in the drive.

The next task is to set up the preferences that you want. *VideoTitler* is very flexible, you can either set the defaults every time you start up, or you can save different set-ups for different purposes. We will establish a set of standard Amiga fonts to use.

VideoTitler uses two types of font: its own scalable format and any standard Amiga bitmap font, including ColorFonts. Click the right mouse button and pull down the FONTS heading or use the F6 key as a shortcut. Almost every function in *VideoTitler* has a short-cut key sequence. Whilst you are working, it is worthwhile making a note of these on a sheet of paper for future reference.

All the font entries are set to the system default font, Topaz. Click with the left mouse button in the first entry in the table to highlight it and then click on the Install New Font icon at the bottom of the requestor. You should now see a list of all the fonts, including the sizes that you added to the disk. Pick a font and size and click on OK. Now work down the list adding more font choices and sizes to all the other entries. Once you have finished, click in the top left to close the requestor.



Amazing title sequences can be constructed using just *VideoTitler*, a simple genlock and some suitable video footage.

SAVING YOUR SETUP

To save the setup, pull down the Project menu, highlight Settings and then Save. Now, whenever you want to get back to the setting with all the fonts set up, you just load *VideoTitler* and use Project>Settings>Load to get back your settings.

VideoTitler has five different palette sets, but only one set is active. Choose the active palette from the Edit>Colors menu, or by using the <Right-Amiga> 1,2,3 or 4 combination. Save the set-up again. Now, when you select your colours, bear in mind that they are destined for video. PAL TV hates fully saturated colours!

As a safe reference, keep all the settings at a maximum of 12. That means that white ends up a bit of a dirty grey and the other colours are not quite as vibrant, but they transfer well to video. You can get away with some higher values, so a bit of experimentation will tell you the maximum parameters for your equipment.

Amiga graphics are set to fit comfortably inside a TV or monitor screen. If you are using a background graphic, you need to expand the screen size to fill the whole area. Depending on the equipment that you are using, you need to set Medium or Severe Overscan from the Display menu. Medium Overscan should be sufficient, but a quick test will show you.

Select a standard Font like Amiga Diamond 20 and the '3D Block' style from the 'Text' menu. Place the cursor in roughly the centre of the screen and click once with the left mouse button. You will now see a large cross-hair on the screen. Type in 'CU Amiga' or some other text and click the right mouse button to render it on the screen. Now select 'Set to Text' from the pulldown menu. A white box with an inverted triangle should appear and the mouse pointer will change to 'CLIP'. Use the left mouse button to grab the edges of the white box and surround the text. One click with the right mouse button grabs the text and stores it on the Clipboard. Now use <Right-Amiga> C, to clear the text from the screen. Then use Edit>Paste>Tile Full from the pulldown. The empty clip box will appear again. Move this to screen top left and click once on the right mouse button. The screen will then fill with tiles of the text. If it is not what you want then try again. <Right-Amiga> Z key combination will clear the screen for you to try again.

Once you have a background you are happy with, use the <F7> key to call up the Poly Font Requestor. Poly Fonts are *VideoTitler* scalable fonts, which means that they can be created in the size and shape required. Again they can be modified by the style menu called up by <F10>. Once you have selected a font and style, pull down the Text>Entry menu, but make sure you select the second occurrence under Poly Fonts. You will see a scaleable font bar appear on the screen. For now just type in the title text. It will appear surrounded by a box with small blocks on the sides and on the corners. By using these little boxes you can pull the letters to the size and shape you want. Having got the title page set up, save it to disk.

drawer Videodata:
ALTER THE 'drawer' FIELD TO YOUR WORKING DISK NAME AND THEN SAVE THE SETTINGS
File
OK Cancel

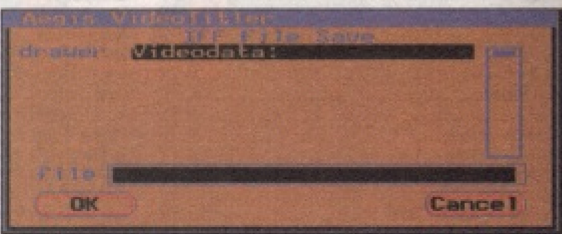
YOU'VE BEEN FRAMED

A TV picture is made up of 25 pictures or frames every second. The full picture frame on a PAL TV system is 625 lines, but as some of these are used for special purposes like TeleText, the viewable picture size is about 580 lines. Each frame is made up of two fields, which are the odd and even lines respectively. Although the frame rate is 25 per second, only half the frame is sent at one time, so the true rate is 50 per second for the PAL TV system. This is expressed as 50Hz. As only half the information is sent each time, the display is said to be Interlaced, which accounts for the flicker that you see on a TV and on the higher resolution Amiga displays.

To be able to merge two video frames, it is essential that the two signals are synchronised so that the frames are at the same frequency and at the same time. To do this, the Genlock adjusts the Amiga and brings it in time with the incoming video signal.

TAPING WITH CAMCORDER AND GENLOCK

To put your finished screen to video tape use the following steps as a guide if you are using a camcorder and Genlock. Switch off your Amiga and connect your Genlock to the RGB port. Connect the video output from the camcorder to the video input of the Genlock and the video output from the Genlock to your video recorder. If you have a monitor, then connect that to the pass through port on the Genlock and connect a TV to the video so you can see what is going on. You will have to select the AU input on the video before you will see the output from the camcorder. Switch on the camcorder and check that it is getting a picture. Now switch on the Amiga, booting from the *VideoTitler* disk. Load the first image that you saved and select Display>Screen>Interlace from the pulldown menus.



Pictures can be saved from *VideoTitler* in IFF format, so they can be edited in an Art package later.

Select the options on the Genlock so that you see the image either over the camcorder picture or on its own as required. Now put your video machine into record pause and move the cross-hair pointer off the screen to the top or left. Release the record pause on the video and tape the graphic for as long as you need.

TAPING WITH THE MODULATOR

Make the connection from the Modulator output to the UHF input on the video. Connect the TV to the UHF output from the video.

Load up the screen as above and again select the Interlace option to get the best possible picture. Tweak the tuning controls on the video until the picture is as good as you can get before recording the image for as long as required. The composite output from the modulator can be used if your VCR has a direct composite phono or SCART input. CU

NEXT MONTH

Next month more tips on creating graphics with *VideoTitler* and the full lowdown on how to shoot video footage and overlay titles onto it.

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GAMES PROGRAMMING MADE EASY



Welcome back to CU AMIGA's guide to games programming in AMOS. If you've been following the series over the past three months, you should already be well and truly on your way to getting your first AMOS game up and running. So far though, our *PacMan* game leaves a lot to be desired as far as gameplay is concerned. And let's face it, what use is a game without gameplay? So without further ado, let's take our game one step further by adding some ghosts...

PART 4 PacMan has had it easy up to now, so it's about time we got him running for his life. Dave Smithson explains how to add ghosts to our game.

HARD CORE

The routine that we'll be covering this month forms the core of the code required to get three ghosts running around our maze in hot pursuit of PacMan. We won't actually make them attack PacMan yet, but the code will be there to allow the ghosts to search out PacMan and – once they've spotted him – follow him until they either lose him or manage to corner him.

TABLE 1

```
Check whether ghost can see PacMan
    If he can, change direction of movement so that he chases
PacMan
Check whether ghost can turn left or right
    If he can, then check whether he actually wants to
        If he does, then change his direction to either left
or right
Check whether ghost can move forward
    If he can't, then find a direction that he can move in
Move ghost in the direction he is facing
```

You need to introduce a certain amount of intelligence into the computer controlled baddies which is no mean feat. Unless you just want your ghosts wandering around the maze bumping into each other like half-drunk journalists, you'll be amazed at how much work is required to add even amoeba-like intelligence to a computer-controlled character.

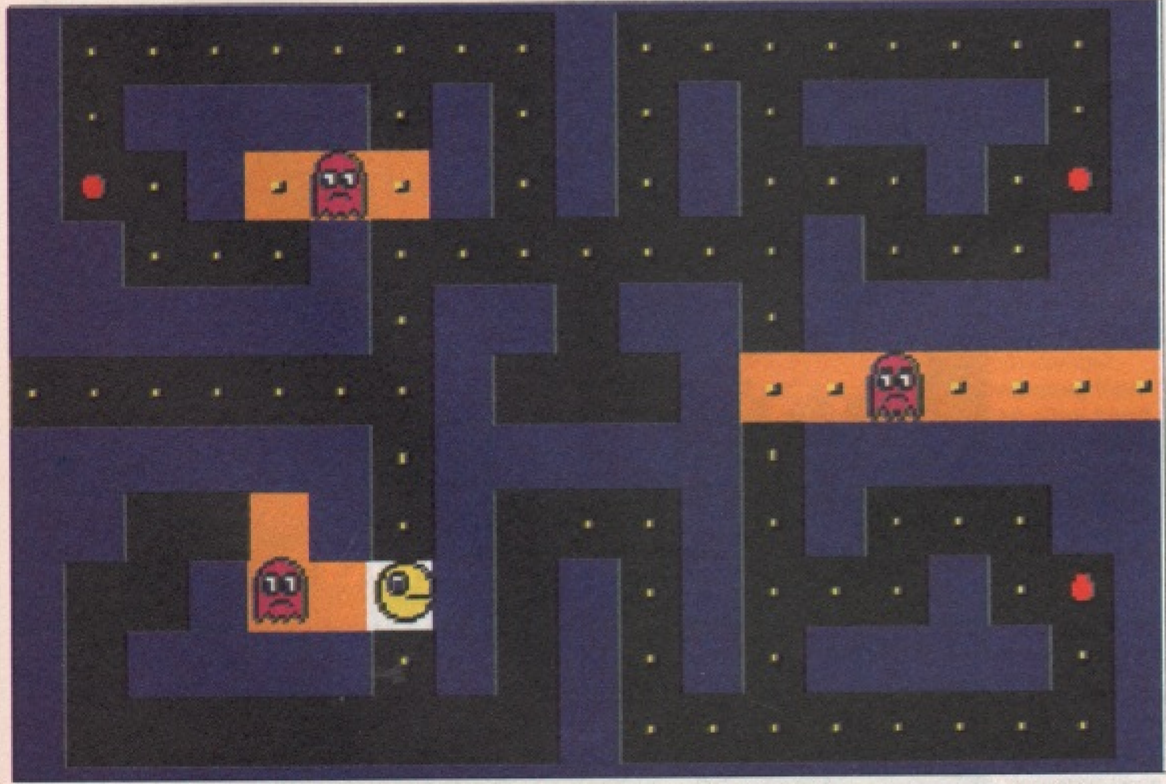
PSUEDO MASOCHIST

Let's start by taking a look at the psuedo code for the ghost movement routine. Writing a routine out onto paper in psuedo code format is always a good idea as it allows you to think logically about how a particular routine should work without having to get bogged down with technicalities.

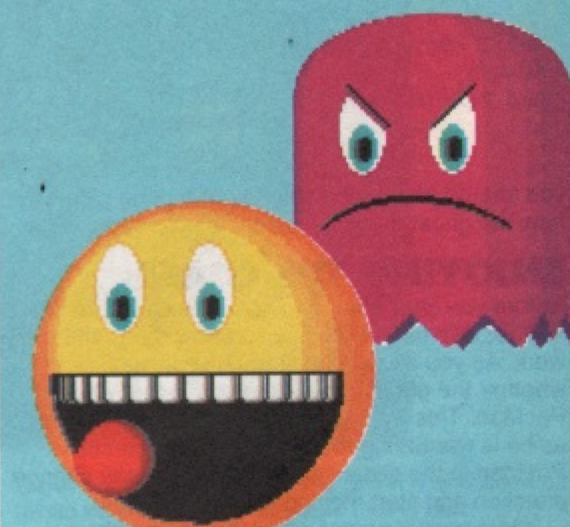
Trying to code a complex routine off the top of your head is one of the biggest mistakes that many coders make. Always start by trying to establish what the code must achieve and then consider the steps that will need to be performed to achieve this. See Table 1 for an example routine.

Once we've got the bare bones of the ghost movement routine down onto paper, it needs to be fleshed out into true psuedo code that can later be turned into AMOS code.

Table 2 on page 166 shows some pseudo code. The code is still in a very rough form, but



Life used to be easy for PacMan, but now he's got three ghosts to contend with! Each ghost has a certain amount of intelligence which allows them to literally search out PacMan. Is nowhere safe?



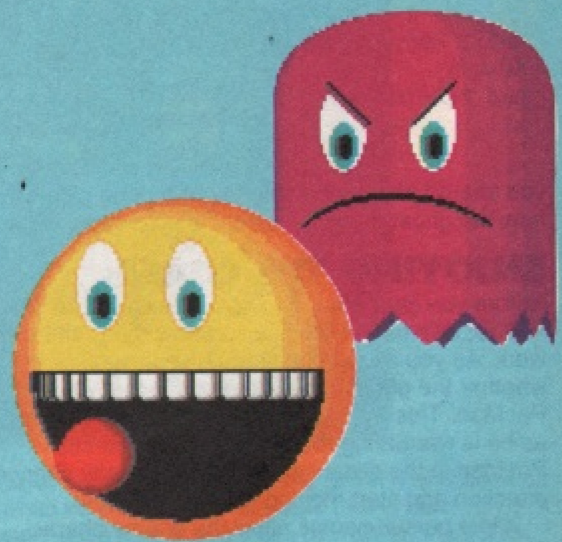




TABLE 2

```
Routine: Ghost Movement Start
Check map to see whether Ghost can see PacMan
Can it see PacMan?
If Yes
    Update bearing so that Ghost faces PacMan
If No
    Can Ghost turn left or right?
    Does it want to?
    If Yes
         Update bearing to new direction
    If No
         Is direction of movement clear?
         If Yes
              Do nothing
         If No
              Find an alternative direction
              Update bearing to new direction
         End If
    End If
End If
Move Ghost in direction of bearing
End
```

TABLE 3

```
Procedure _SEARCHMAP[GHOST]
BEARING=-1
For A=0 To 4
X=GHOST(GHOST,0)
Y=GHOST(GHOST,1)

Repeat
        If X=PACX and Y=PACY
                BEARING=A+1
        End If
        X=X+BEARING(A,0)
        Y=Y+BEARING(A,1)
Until MAPDATA(X,Y)=2
Next A
End Proc[BEARING]
```

you should already be able to get a good idea of how the ghost movement routine is going to work.

ENJOYING THE CHASE

Before you start turning the psuedo code into AMOS, let's take a brief look at how the routine will work. As you can see, it starts by checking whether the ghost in question can actually see PacMan. This will allow the ghost to look around as he is wandering round the maze. If he sees PacMan in the distance, then he'll instantly change direction and start moving towards PacMan.

Most pursuit games allow the enemy characters to pursue the player around a maze regardless of whether they can actually see the player's sprite or not.

REALISM

If you think about it though, this sort of scenario is hardly realistic. After all, if you were being pursued around a maze by the CU AMIGA crew, they'd be as lost as you are – not until they had actually spotted you would they be able to start chasing after you. Until then, they'd simply be wandering around with absolutely no idea of your whereabouts. Even once they had spotted you, it would be quite easy for you to lose them again simply by ducking out of their field of view. Once they had lost you, they would no longer be able to chase you. Instead, they would continue in the direction that you were last spotted hoping to catch a glimpse of you later.

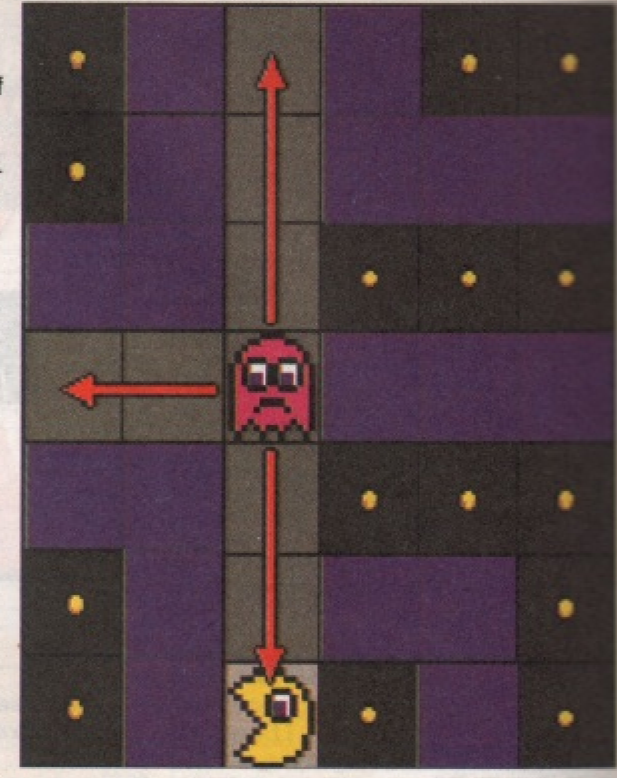
Turning this part of the ghost movement routine into AMOS code isn't as difficult as it may first seem. If you think about it, our ghosts only need to look in four directions – north, south, east and west. The easiest way to do this would be to check every square in each of these four directions until the ghost had either spotted PacMan or he runs out of floor space (ie, he's looking straight at a wall). The AMOS procedure for this routine is shown in Table 3.

BALL BEARINGS

As you can see, the code that handles this seemingly complex operation isn't that long at all. The code works by checking every square in a particular direction (dictated by the 'BEARING' variable) until the set of co-ordinates generated by the Repeat..Until structure matches the current co-ordinates of PacMan or a wall section is reached (a value of 2 is returned from the MapData array). The clever bit about this routine is the use of an array containing a set of bearings that control how the X and Y variables are updated each time the loop is performed.

This array contains four sets (one set for each direction) of two values (one for the X co-ordinate and another for the Y coordinate). For example, the set of co-ordinates for a movement to the north is 0, -1 – that is, add zero to the X co-ordinate and minus one to the Y co-ordinate (if you know your maths, then you'll no doubt have already realised that adding -1 to a number is the same as subtracting one). Each time the loop is performed, these two values are added to the X and Y co-ordinates, allowing the routine to snake upwards through the maze until a wall is encountered. When this happens, the routine then checks the other three directions.

If the SEARCHMAP[ ] procedure did manage to find PacMan within the Ghost's field of view, the direction in which the Ghost is facing is automatically changed so that he faces PacMan head on. If PacMan was not found, the psuedo code then continues by checking whether the ghost can turn left or right. I put this condition in to stop the ghost simply wandering in the same direction all the time – by introducing a bit of curiosity into the ghosts, they should never trample the same path twice making the game somewhat less predictable.



Every time a ghost moves, the computer checks to see whether it can see PacMan. If it can, the ghost starts moving towards him.

CHECKING MOVEMENT

The routine that is needed to actually check whether the ghost can move left or right is considerably more involved than you might have believed, as the code below demonstrates.

What you must realise is that there are so many different factors to consider with this routine. For starters, the direction that a ghost moves in when he moves either left or right depends entirely upon his current bearing.

For example, if the ghost were facing west and you want to check whether he could move left, you



All three ghosts are controlled by a data structure that contains four items of information that is interpreted by the ghost movement routine.

would actually need to check the mapdata immediately to the south. If he were then to turn so that we faced south, you'd have to check the mapdata to the east.

You've also got to consider what happens if the Ghost can move both left or right. Do you just take it for granted that if this should be the case, the ghost will automatically take the path to the left? Not really, unless you want your game to be predictable. My code actually handles this situation by performing a random number test that generates either 1 or 0. If a value of 1 is returned, then the ghost moves off to the left else he moves off to the right. See Table 4.

Once the computer has checked to see whether the ghost has the option to move left or right, it then checks to see whether he actually wants to change direction – after all, he might be quite happy to continue in the direction that he is already travelling. Once again, we're introducing a little bit of unpredictability into the ghosts so that the player cannot simply learn a preset movement pattern. To be perfectly honest though, the routine that I use is hardly artificially intelligent – what it actually does is to generate a random number between 0 and 3. If a value of 3 is returned, then the ghost changes direction. If, on the other hand, any other value is returned, the ghost continues in the direction that he is already moving. This gives the ghost a 25 per cent chance of changing direction. If the ghost decides to move in that new direction, the direction in which he is facing is then changed accordingly.

TABLE 4

```
Procedure _CHECKMAP[GHOST]
BEARING=-1 : LEFT=0 : RIGHT=0
X=GHOST(GHOST,0) :
Y=GHOST(GHOST,1)

If GHOST(GHOST,2)=1 or
GHOST(GHOST,2)=2
        If MAPDATA(X+BEAR-
ING(2,0),Y+BEARING(2,1))<>2
                LEFT=1
                End If
        If MAPDATA(X+BEAR-
ING(3,0),Y+BEARING(3,1))<>2
                RIGHT=1
                End If
        If LEFT=1 and RIGHT=1
        Randomize Timer
        Choice=Rnd(1)
        If Choice=1
        BEARING=3
        Else
        BEARING=4
        End If
        Else
        If LEFT=1
        BEARING=3
        Else
        BEARING=4
        End If
        End If
Else
If
MAPDATA(X+BEARING(0,0),Y+BEAR
ING(0,1))<>2
        LEFT=1
End If
If
MAPDATA(X+BEARING(1,0),Y+BEAR
ING(1,1))<>2
        RIGHT=1
End If
If LEFT=1 and RIGHT=1
        Randomize Timer
Choice=Rnd(1)
        If Choice=1
        BEARING=1
        Else
        BEARING=2
        End If
Else
If LEFT=1
        BEARING=1
        Else
        BEARING=2
        End If
Endif
End If
End Proc[BEARING]
```

STRUCTURED PROGRAMMING

This month's code also introduces another games programming concept that you should be aware of – the data structure. As any C or Pascal programmer will tell you, a data structure is essentially a type of array that allows you to group several different variables together under a single heading. Obviously BASIC doesn't support real data structures, so we've had to make do with AMOS' still more than capable arrays.

Each ghost is given its own data structure that holds a number of important facts about that ghost – its current X and Y position within the mapdata array, its bearing (the direction in which it is heading) and its current status. The status is used to tell the game whether the ghost has been munched or not (ghosts can only be munched when PacMan eats a power pill). Although our code doesn't use this facility at the moment, it's in there for future expansion. When such things are taken into account, the movement routine will treat the ghost differently according to its status – if the ghost has been munched, for example, then it will run away from PacMan rather than pursue him. There's still a lot to be done to the ghost movement routine, but the data structure that we've looked at this month is flexible enough to cover all eventualities.

Using data structures also adds an extra benefit – just a single movement routine can be used to control the movements of all three of the ghosts on screen. Although each ghost is treated in turn, the movement routine treats each ghost independent of the others, so we've cut down on the amount of code we need straight away. We could have recoded the PacMan movement routine that we covered last month so that PacMan too was controlled by information held within a data structure.

Most professional games programmers use data structures to keep track of individual characters within a game. Once you start coding complex arcade games that employ tens of sprites, rather than just the four that our game uses, you'll soon come to realise that data structures are the only way to control the movement of sprites without your code grinding to a halt. From now on, you need to think data structures!



Most games use data structures in one form or another.

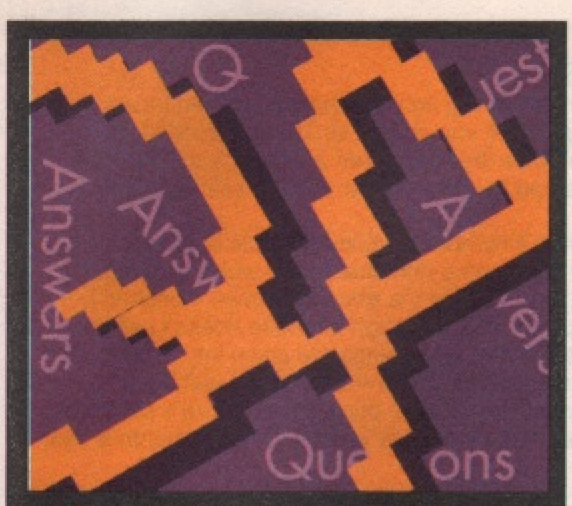
LAST BUT NOT LEAST

Finally, once all the movement parameters have been checked, we come to the section of code that handles the ghost's movement in the direction that he is facing. This too may seem very straightforward, but what happens if the ghost has walked as far as he can along a passage that is blocked by a wall? If we simply allow him to walk on, he'll walk straight through the wall (OK, I know ghosts can do this, but they can't in my game, so there!).

What we need to do is to first check whether the ghost can continue in the direction that he is facing by consulting the mapdata array. If he can move in that direction, then all well and good. If he can't though, the game then tries to find a direction that he can move in. CU

NEXT MONTH

Our game really is starting to shape up now, so it won't be long before it becomes truly playable. Next month we'll be taking a look at collision detection and the handling of the power pills that PacMan can eat to allow him to munch through those meanies. In the meantime, have fun with this month's code.



Ever eager to help anyone in distress, Mat Broomfield is back with this month's batch of problems to be solved. Stand by for CU AMIGA's very own knight in shining armour.

GOOD VALUE?



I've recently bought an A600 and I'm thinking of buying two programs very cheaply by joining a mail order club. The programs that I'd like to get are *Music X Jr* and *Photon Cel Animator* and they're being offered for £14.99 and £18.99 respectively.

In your opinion, are they worth the money and will they both work with my 1Mb computer? Can I use *Technosound Turbo* with *Music X Jr*? If it makes any difference, the club that I am considering joining is the Home Computer Club.

Please help as I know virtually nothing about computers.

Joseph Robertson, Hawick, Borders

I think that a great many programs are horribly over-priced, but perhaps regular users of those programs would disagree with me. At £14.99 for *Music X Jr* I don't think that you're getting ripped off, but I believe there are some compatibility problems with 2.0 Amigas and as you're a beginner you'd probably be better off looking at one of the public domain sequencers such as *Protracker*, *Soundtracker* or *MED*.

Unlike *Music X Jr* which has been designed primarily for MIDI use, these programs have been written to play samples such as those that you can record with *Technosound Turbo*.

In my opinion £18.99 for *Photon Cel Animator* is a little on the expensive side. The program is now several years old, and it only animates HAM mode screens, it doesn't actually come with an art package. I'm sure that you could find it cheaper if you scanned the mail order ads in this magazine. In any case HAM animation is very costly in terms of memory, and although you could create very simple animations of minutes in duration, you'd be better off to use a non-HAM screen mode which lets you create longer animations. A program such as *Deluxe Paint III* is ideal for this, and you should be able to buy a copy for less than £19 if you look around.

FLOPPY ENCYCLOPAEDIAS



I saw an ad in the May edition of your magazine for Amiga encyclopaedias for £40. I don't really want to fork out that much, so I phoned the company, who suggested checking the public domain libraries for cheaper alternatives. When I phoned some public domain companies they said that encyclopaedias take up too much memory to put on floppy disk and that they are only available on CD. Can you help?

J.G.Tewes, Stanford-le-hope, Essex

The encyclopaedia that you're referring to is supplied on a CD ROM disk. To use this you need either a CDTV player or an A690 CD ROM drive. CD ROM disks are essentially CDs which hold computer data instead of music data. They are capable of storing more than 731 floppy disks' worth of information, so you can see why it isn't practical to convert them onto normal disk. There are no worthwhile encyclopaedias available on floppy disk.

WON'T RELOKICK



I use the *Relokick 1.3* program that you gave away with your March edition and I find it very useful for making games work with my 1Mb A600. Unfortunately, I still seem to encounter the odd game such as *Jimmy White's Whirlwind Snooker*, which crash before I can get a chance to play them. Can you please tell me if there is any way that I can overcome this problem?

K. Skewes, Bognor Regis

No matter what you do, there will always be some games that don't work on your A600, however increasing the amount of RAM on your Amiga may improve the situation. Preferably you should use some form of expansion which gives you additional Fast RAM such as a PCMCIA slot card.

CAN'T READ-ME



I wanted to make some of my own games and to include a read-me file on the disk containing instructions and credits, etc, but I don't know how to go about making one.

I tried using one from another program, but any attempt to change it either results in it not being changed, or needing the program I used to change it with in order to load. Do you have any ideas?

S. Smethurst, Stamford, Lincs

It seems that you're somewhat confused about exactly what a read-me file is. True the file is a text file that can be accessed and read by double-clicking its icon, but the bit that you seem to have missed is that it's not simply a text file on its own – there's also a reader program into which the text file is loaded.

Here's an example of how to make a read-me file:

1. Make a copy of your Workbench disk, then load the copy.
2. Create a text file containing whatever you want to say. Use the ED program on the Workbench, or a similar text editor. Using the name 'Example' save the text file to the copy of your Workbench disk.
3. Create another text file containing the following command: DF0:PPMORE DF0:example. Using the name 'Test' save the text file to your Workbench copy.
3. Open the Shell and type COPY FROM DF0:Shell.info TO DF0:test.info then press return.
4. Close the Workbench and Shell windows.
5. Open the Workbench window again. On top of the old Shell icon you'll see a new icon labelled 'test'. Click once on this icon and then select Information from the 'Icons' menu. A requestor will appear and beside the words 'Default Tool' you'll see 'SYS:System/CLI'. Delete this and type C:IconX then press return then click the 'Save' button.
6. Copy The PPMore program to the copy of your Workbench disk. PPMore is a public domain text reader that you can use to read both compressed and uncompressed text files. You can obtain it from any public domain company, or if you buy the commercial version of *Powerpacker*, PPMore is supplied as a free extra. You can buy *Powerpacker* from Database Direct Ltd, PO Box 2, Ellesmere Port, South Wirral, Cheshire, L65 3BN.

You should now find that whenever you double-click the 'test' icon, PPMore is loaded and your text file called 'Example' is loaded into it ready to read.

WHERE TO NOW?



I have owned my 1.2 Amiga 500 for over four years and have spent a lot of money on it in that time. My setup now includes an extra drive, 40Mb Vortex hard drive, modem, printer, 3Mb of memory and many, many programs of one sort or another.

I also have a program to upgrade my rather archaic 1.2 ROM chip to Workbench 2.0 so it doesn't seem necessary to buy a ROM sharer and chip. This program was written by an acquaintance who claimed to have somehow copied the 2.0 ROM chip onto a floppy disk.

Bearing in mind that it's possible to copy the contents of a ROM chip onto disk, is it likely that anyone will find a way to copy the contents of OS3 complete with the new AGA chips onto disk, perhaps for hard drive installation, or is this impossible due to large amounts of data to be accommodated?

Unfortunately the OS2 upgrade software that I'm currently using requires three megs of RAM to operate in. Do you know of a version that uses less RAM AND is hard drive installable?

Incidentally, is there any way that I can tell my Amiga to use Fast memory as Chip RAM? Even with 3Mb of memory I still can't get some programs to run from my hard drive – *Cruise for a Corpse* for example. Are there any programs available which will do the job for me? What are the pros and cons of Fast and Chip RAM anyway?

As you may have gathered from my questions, I'd ideally like to get a cheap A1200, but I don't really want to part with my A500.

As I'm unemployed and can't afford to buy a spanking new 1200 I was looking for the cheapest possible upgrade path from my 500. My final option is to sell my 500 and buy a 1200 but in your opinion is this REALLY necessary?

If there was any legal way that I could make money with the machine I'd be as happy as the proverbial pig. Any suggestions mate?

Graham O.D. Wynn, Southsea, Hants

Let's get one thing straight – it is highly illegal to copy Commodore's *Kickstart* ROMs or

transfer them to disk. Therefore the 2.0 ROM you currently use is in contravention of the copyright laws.

Anyway, you don't get all of the advantages of using a proper 2.0 upgrade using a software upgrade such as yours. For starters, you can't take advantage of the auto-booting hard drive option. It is absolutely and totally impossible to 'simulate' a 3.0 machine on your 1.2 Amiga even if you do copy all of the ROMS. For starters the A1200 uses 32-bit architecture that your 500 can't duplicate.

Furthermore, your old hardware has no way of reproducing the new graphics architecture, or the faster 68020 processor. The only way to get a 1200 compatible machine is to buy a 1200 or a 4000!

As for your memory problems, you can't turn Fast mem into Chip RAM, but I'm by no means convinced that this is the source of your problems. I suspect that it may be the hard drive installation that's at fault. Not all programs recognise every make of hard drive and this may be one of those problems. I suggest that you give *Cruise for a Corpse*'s publishers, US Gold, a ring and ask their advice. Phone them on 021 625 3366.

One solution to a lot of your problems is to upgrade your Amiga's chipset. At the very least you should purchase the new 2.1 kickstart chip and 2.1 Workbench. You can then modify your motherboard so that it recognises one meg of Chip RAM.

If you're using programs which are loaded via Workbench, you can use a program called FastMemFirst to force them to load into Fast memory unless they specifically require Chip RAM to run. This can generate a substantial amount of extra free Chip RAM.

You've spent so much on your A500 that I think that you'd be very foolish to sell it at a massive loss simply to buy an A1200. The A1200 is a wonderful machine, but your setup sounds quite tasty too.

On the subject of money-making schemes for you and your Amiga, you might want to consider using your printer to print CVs for people. You can charge £10-15 each for them and at this time of year a lot of college and school leavers will be in need of professional-looking CVs as they start jobhunting. You can advertise this kind of service in free local newspapers, or on college noticeboards and it shouldn't set you back too much to do so.

Alternatively, why not start up your own typing service, taking people's hand-written notes and converting them to ASCII text files and printing them?

Again, this is ideal if you live in a university town where a lot of people will need essays typed up, but you'll also find lots of clubs, societies and small businesses who will occasionally be glad of your services.

Perhaps you could design letterheads or logos for local companies using *DPaint*. What about newsletters for local clubs, community groups or charities? Or certificates for schools? Or mailing lists for national companies?

You will find that it isn't quite as expensive nowadays to upgrade to the A1200 as it used to be either. If you read the news in last month's issue of CU AMIGA you'll be aware that many independent dealers can now give you a Commodore backed trade-in reduction on the machine of your dreams. This offer is, however, only available through independent dealers.

WHICH HARD DRIVE?



I am considering buying a hard drive for my A500+ but there are a few points that I need to have clarified first:

Which size of hard drive would you recommend? I use my A500 for DTP, games, *DPaint*, music and messing around with Workbench, and my finances will only stretch to £350.

Do hard drives come with their own power supply? If not, why not? I read in the Evesham Micros advert that their hard drive comes with a power supply as standard. Does that mean that some don't?

What is SCSI? I have read that I need a SCSI interface, but what is it and how does it affect the hard drive?

Which brand of hard drive do you recommend in my price range, and which retailer?

What is a low level format, and what does it do to the hard drive? Does it affect the storage space? I read in another magazine that Evesham Micros' drive cannot perform a low level format. Would you still recommend the drive?

P.Clark, Goxhill, South Humberside

Choosing the correct size of hard drive is almost as important as choosing the right brand of drive. Many people underestimate their use and end up filling the drive up in no time. Apart from your Workbench dabblings, all of your other activities have high capacity requirements: DTP needs lots of space for scalable fonts, structured clip art and the like, music requires modules and samples which can also gobble up space, and with games coming on 10 or more disks even a 50Mb hard drive is easy to fill. I think that you would be unwise to look at anything less than 80Mb, and if your finances will stretch to a higher capacity then go for it.

Some Amiga-specific hard drives draw their power from the computer itself and hence don't require additional power supplies. However, this can place a strain on your power supply and you may think it preferable to use a drive that comes with its own power source. It's also possible to buy a non-Amiga specific hard drive either bare or in a case and add your own power supply. Such drives can only be linked to the Amiga via a SCSI or IDE interface.

SCSI stands for Small Computer Systems Interface and it's a standardised way of connecting different devices to your Amiga. With a SCSI interface you can connect up to 16 SCSI compatible devices to your computer and these may be hard drives, tape streamers, CD ROM drives or whatever.

Most Amiga specific drives are supplied with an interface already built in, and SCSI is the preferred choice over IDE because it's both faster and has a greater expansion potential.

A low-level format is when each and every track on a drive is literally wiped clean of information. It was necessary with some old clunky A590 hard drives but most modern Amiga drives simply ignore low-level formatting commands as they have their own internal formatting systems. In some 2.5 inch IDE drives forcing a low level format can actually be detrimental to the drive. A high-level format prepares the drive for use by making it AmigaDOS compatible. This involves putting such things as file allocation tables, and directory structures onto the drive.

The fact that a drive can't low-level format is pretty much irrelevant nowadays, and anyone who says otherwise is misguided.

A1200 HARD DRIVES



Since buying an A1200 just after Christmas, I've been seriously considering buying a hard drive, especially with the cost of IDE drives so low.

I decided to wait a little while to see if these hard drives would come down further in price, and I'm glad to say that they have started to.

However, after reading an interview with ex-Commodore MD Kelly Sumner in your sister magazine *The One*, I'm in a bit of a dilemma. Mr Sumner felt that in the near future the PCMCIA slot could be used for hard drives.

This would be excellent as far as flexibility and convenience goes, but would it be better and cheaper than IDE drives? Also would cards come in 80-100 meg capacities or only some smaller size?

What's your opinion of the PCMCIA slot? Have Commodore given us a white elephant or do you feel that this medium will be used to its potential?

Pat McGrath, Luton

You'll find that IDE drives are actually more expensive than their SCSI equivalents. Unlike SCSI drives where most of the controlling circuitry is on-board a SCSI interface, IDE controllers are built into the drives, pushing their prices up accordingly.

Because you can use any 2.5 inch IDE drive with your A1200, their prices are not particularly affected by current developments in the Amiga market, therefore any recent price decreases are likely to be a matter of coincidence.

As for PCMCIA hard drives, such drives already exist for PCs, and I would assume that Mr Sumner perhaps thought that their existence on that platform automatically meant that they would also become available for the Amiga.

Unfortunately this theory doesn't necessarily hold water because the cost of developing the required circuitry for an Amiga version may be prohibitive, especially when Amiga users already have a choice of two perfectly adequate drive interfacing methods.

PCMCIA slot hard drives are really designed primarily for lap-tops and other portables, so until we see a portable Amiga, I don't suppose we'll see PCMCIA drives. Incidentally, these are likely to be vastly more expensive than their full-sized cousins.

A more likely possibility is the arrival of so-called 'virtual drives'. These are actually large-capacity PCMCIA memory cards with a battery so that their contents are not destroyed when they're unplugged or the mains power is turned off.

At the moment, such cards are, unfortunately, staggeringly expensive, but keep your eyes open as the situation will hopefully change soon.

Despite its initial promise when it appeared on the A600, the PCMCIA slot has yet to be used in anything but the most superficial way. No utilities, games or protection systems have appeared which use it, and no hardware other than RAM cards has become available. The point is that, until a far greater number of Amiga owners have PCMCIA equipped machines we won't be seeing much development for it.

The fact that the rest of the world has moved on to a newer PCMCIA protocol may mean that we never see the likes of the modems and hard-disks that were originally promised to us.

»

» ADVENTURE WRITER



I have almost finished writing out a text adventure on paper and I now want to convert it to run on my A500+. I presume that I will have to use BASIC for this, or even AMOS so could you please tell me how best to go about it? Is there an Amiga program that allows you to write BASIC programs?
Simon Geary, Bearsden, Glasgow

If you're going to use BASIC to write your adventure, then you're better off with AMOS which is more powerful and flexible. However, I strongly suggest that you buy a copy of *Visionary*, a program which has been designed specifically for writing your own adventures. Better yet, it even allows you to incorporate graphics and you can also use it to create *Dungeon Master* type games. Visionary is available from Centresoft on 021 625 3366.

ERROR VALIDATING DISK



I have recently purchased an Amiga 500 and many of my disks are failing to load and I'm being given the message 'Error validating Disk'. I'm then told to use *Diskdoctor*, but I don't know what it is. If you suspect that the problem could be a virus, could you please advise me on which virus killer to use? Could you also please give me so advice on how to retrieve files on bad disks?
Raheel Shafi, Fartown, Huddersfield

The message that you're referring to can be caused by a number of factors, of which virus infection is only one.

To eliminate that, I suggest that you contact Goldstar Computers on 0942 682205 to purchase their latest disk of virus killers or use the Virus Checker on this month's disk.

Having ensured that a virus isn't responsible, it's likely that the disk has become damaged or that the drive heads are not in good condition.

The disk can become damaged in a number of ways: it can simply wear out with repeated use, it can be damaged if dirt gets into it and rubs against the magnetic surface, or it can even be physically damaged if you take the disk out of the drive whilst a disk operation is being performed.

The *Diskdoctor* program to which the message alludes is a small repair program supplied with your Workbench. To use it, simply open a shell or CLI window and type diskdoctor <return> then follow the screen instructions. It attempts to repair the damaged disk well enough for you to copy the files off it. Unfortunately, due to the way it works, it only gives one shot at repairing the disk.

There are a few programs which can be used for repairing disks, such as *QuarterBack Tools* and *AmiBack Tools*. Not only can they repair damaged disks and files, but they will even restore files that you may have deleted accidentally.

The last possibility is that your drive is in some way not working. The first thing to do is to give it a clean using one of the cheaply available head cleaning kits advertised from time to time. It's very important that you don't clean your heads too often. Once every few months is quite adequate.

If this still doesn't help, perhaps your drive heads are out of alignment? There are programs available to check this, but as realignment will invalidate your warranty, it's probably best left to the professionals.

DPAINT PALETTE PROBLEMS



Thanks to Peter Lee's tutorials, I'm getting along very well with *DPaint*, but I still have problems when overlaying graphics. Basically, I'm working on a picture and I try to load another one on the spare screen so that I can cut images from the second picture and paste them onto the original one.

Once I've loaded the second picture, I press 'J' to return to the first screen but its colours are all changed so that I have to recolour the picture manually. I also find that when I load a brush, it loses its original colours. Is this right, or am I doing something wrong?
Paul Weemas, Belgium

You're not actually doing anything wrong, but you don't seem to understand the way that *Deluxe Paint* handles the colour palette. When you load or create a picture, that picture uses a palette of between two and 64 colours according to the screen mode you've chosen.

If you subsequently load a picture on the spare screen, the new image will also have its own palette, and if this is different to the original picture's palette colour distortion will occur.

This is because *DPaint* is only capable of storing one palette at a time, therefore the main and spare screens must both share the same one. Similarly, when you load a brush it must use the current screen's palette, and this means that the brush will probably not appear in its original colours.

One solution that helps when pictures and brushes share similar palettes is to select Remap or Brush/Remap from the Colour menu. *DPaint* will then attempt to recolour the screen or brush using the available palette.

If you are loading a brush and you don't mind what happens to the screen colours select Palette/Use Brush Palette from the colour menu to use the brush's palette.

If you have *DPaint IV* it may be worth forcing both images into HAM mode, merging the images and then use the Screen Mode to select the actual number of colours you want.

PORTABLE DRIVE?



I currently own a 500+ with a GVP series II A500-HD+ and I am considering an upgrade to an A1200. I've seen references to a SCSI interface for the A1200 in the May issue of Which Computer and I was wondering if such a device will allow me to use the GVP drive with the 1200? If so will it also let me access the 2Mb of memory that I have on the drive?
Ian Black, Deeping St James, Lincs

The SCSI interface will cost at least £350 and the A1200 will cost about the same. You can buy an A1200 with an 80-120Mb hard drive already fitted for less than that, and that's what I'd recommend. Better yet, get a standard 1200 and fit your own IDE drive – you'll find that it'll be cheaper still!

It is possible to add a SCSI mechanism like the GVP drive to an external SCSI port, but it's not easy and requires a great deal of DIY. This will not allow you to use the memory though.

AMOS CMOVE DOESN'T!



I have the CU AMIGA coverdisk 54 and with the help of your excellent AMOS special guide, together with the user manual, I'm now exploring this absorbing and fascinating language.

However, I seem to have hit upon a problem whenever I try to use the Cmove command.

From the manual, and also from your guide, I understand that this command causes the cursor to move relative to its last position by adding the parameter values to the respective co-ordinates of that position.

In practice, I find this not to be the case and I am unsure whether the effects that I do get are simply a bug with the program, or whether the problem is that I have totally misunderstood what I have read.

For instance, if I run a program containing the line Cmove x,y:Print "A" then parameter 'x' is treated by the program as absolute, and 'A' will be printed at column 'x' irrespective of the cursor's previous position. Nor will AMOS accept a negative value for parameter 'x' as shown in the "Hi Dan" example that appears on page 12 of the guide. Any attempt to do this causes the error message 'Illegal window function at line...' to appear.

Parameter 'y' is also dealt with in a most odd and quirky way. In this case, negative values are readily accepted, and the result is indeed relative to the last 'y' co-ordinate.

However, to move the cursor down by one line a value of 0 must be specified whereas to move it up by a line -1 must be used! I hope that you will be able to help me.
L.J.Seymour, Rugby, Warwickshire

This is a relatively easy problem to solve. Your difficulties with this command stem from the fact that you don't seem to fully understand the way that the Print statement works. If you enter Print "Line1" Cmove 1,1 Print "Line2" and run it, 'Line1' will be printed on the first line and 'Line2' will appear one character in and two lines below 'Line1'.

This is because, without additional formatting characters, the cursor is automatically moved to the start of the next line after a Print statement.

Therefore, if you then use the Cmove command, the cursor is moved relative to that position rather than the last printed character as you expected.

To make the Cmove command work as you would expect it to, the first Print statement should finish with a semi-colon like this – Print "Line1"; Cmove 5,5 Print "Line2"

The semi-colon moves the cursor to the next available cursor position, rather than moving it to a new line.

Incidentally, giving a 'y' value of 1 does only move the cursor down one line. It's an 'x' value of 1 that seems to move the cursor two spaces, and this is only because the cursor is already moved one space in the first place – if you ended the previous Print statement with a semi-colon of course!

As for minus values for the 'x' variable causing error messages, this only occurs if the value specified takes the cursor beyond the start of the line.

Therefore if the cursor is currently at 5,5 and you issue the command Cmove -8,0 you'll receive the error message that you have described in your letter. On the other hand you could use Cmove -4,0 and it would work as you would have expected.

CHANGING KEYMAPS



How can I change the keymap in a program such as AMOS? I've tried changing the startup-sequence, adding the line keyboard\francais.key, and I've even tried copying the WB keymap to it but nothing works.
Johan Van Hoeydonck, Deurne, Belgium

You're on the right track, but I'm not sure where you got the command keyboard from. There is, however, a Setmap command and this is how you should use it in your startup-sequence: Setmap f. Provided that both the Setmap command and the f (short for France) keymap are in the correct place on your AMOS disk, the program will use a French keymap from now on.

The Setmap command should be in the C directory whilst the f keymap should be in the Devs/keymaps directory. If the keymap is absent, copy one from your Workbench Extras disk. If the Setmap command isn't there you can find one in the C directory of your Workbench disk.

DARK COLOURED PRINT-OUTS



I own a Star LC-200 and *Deluxe Paint*. My printer works OK, but when printing pictures the colours are a lot darker than on the screen. Is there any way of changing things so that the printed colours are brighter and I get a more realistic representation?
Paul Jones, Newcastle

The trouble is, the colours used by any printer ribbon are always darker than those created by beams of light on the screen.

To test this, go into the *DPaint* palette (by pressing 'P') and create the colour Cyan by moving the G(reen) and B(lue) sliders up to their maximum value of 15. The R(ed) slider should be set to 0.

Now compare this pale blue colour to the blue colour of your printer ribbon... They're nothing like each other, yet they're both supposed to be the same colour.

One way to improve the problem of dark print-outs is to go into the PrinterGFX section of your Workbench Printer Preferences program. At the top of the window you'll see that there is a section labelled 'Colour Correct' and three boxes labelled 'R', 'G' and 'B'. Click all three boxes (a tick should appear in each one as you do it).

This now reduces the number of colours that the computer attempts to simulate when printing. This in turn can stop your print-outs looking quite so 'muddy'.

Alternatively, both Star and Citizen produce special print programs which will greatly improve the quality of your graphics print-outs. I believe the programs are free so contact them now for your copy. You can phone Star on 0494 471111. Phone Citizen on 0753 584111.

For owners of other makes of printer Flexidump will make dramatic improvements to your printed work and it can even produce posters and banners. Phone Care Electronics on 0923 894064.

Of course, the final solution is simply to increase the screen brightness of your images before you print them. To do this, you simply call up the palette and increase the 'V' slider by a uniform amount for every colour in your picture.

OTHER FONT DISK



I would be extremely grateful if you could tell me how I can assign my fonts disk (in DF1:) to *DPaint 4*?
G. Walker, Aberdeen

You don't need to assign a fonts disk with *DPaint 4*. Simply move the cursor onto the text icon (a letter 'A') and click the right mouse button.

The font requestor will appear at the bottom of which is a text gadget into which you can type the path to your fonts.

Assuming that the new fonts are in the fonts directory of a disk in DF1: you should simply delete what's already in the requestor and type DF1:fonts. When you then press return *DPaint* will read your fonts disk and after a few moments a new list of fonts will appear.

CANNY CAPTURE



Which ISO value and settings do you use to take the screenshots published in CU AMIGA because mine never seem to be as perfect as yours?
Johan Van Hoeydonck, Deurne, Belgium

Although we used to photograph our screen shots, we're much more high tech than that these days. We use a Macintosh-based system which can load Amiga screens directly. Therefore whenever possible we simply provide our designer with IFF picture files.

We grab these with a variety of software and hardware tools including *Grabbit*, *Quickgrab* and *Action Replay 3*.

When we are trying to grab fast action games, or stuff that can't be grabbed by normal means, we have a multi-thousand pound piece of hardware which can grab any RF image.

When I go on location and have to photograph stuff from the screen, I generally use ISO 100 or 200 transparency film. Of course the aperture size and shutter speeds all vary from subject to subject.

Having said that, shutter speeds above 1/15th of a second are too fast as they tend to catch the scan lines as the screen is refreshed and speeds below 1/4 of a second are unnecesarily slow. With these shutter speeds, FStop settings less than 8 seem to produce the best results.

I find that it's essential to use a tripod in a completely darkened room, and I always use my camera's macro mode to get good image sharpness.

ICON DO THAT



How can I go about designing my own icons? When I write a tank game for instance, it would be a nice idea to have a tank icon appearing on the Workbench screen, but I've no idea how to go about achieving this. Is there a special program I need?
D. Carter, Maidenhead

There are a host of Icon design programs available, both commercial and public domain. Three programs that spring to mind are *Icon Meister*, *Icon Master* and *Icon Lab*, all of which are available from 17 Bit software. *Icon Lab* is by far the newest of the three programs.

OVERSEAS ANGST

I've been buying your magazine since July and it just keeps getting better. Hopefully you can answer a few questions for me.
1. Do you have any addresses for Belgian PD companies? It costs more to order from abroad, so a local library would save me money.
2. Why are subscriptions for overseas readers so expensive?
3. If I wrote a game using AMOS, would you consider it for publication in your magazine?
Johan Van Hoeydonck, Deurne, Belgium

1. Sorry, don't have a clue about overseas PD libraries. Perhaps you could find some advertising in magazines which are published in Belgium? Any Belgian readers know of PD libraries in your country? If you do, drop us a line and we'll pass on the details.
2. I guess subscriptions for overseas readers are expensive because additional expenses are incurred in sending them. The cost of airmail alone is astronomical.
3. Although we can't guarantee to publish software that readers send in to us, we carefully consider every program that we receive. And I don't just mean games either as we're particularly interested in utilities. However, you should remember that to stand any chance at all of getting your work published, your programs should be thoroughly tested and should run on ALL Amigas including the A1200.

POTTY PROCESSOR



What's the difference between a 40 and 50 MHz CPU? Why does a 25MHz 68040 chip cost more than a 50MHz 68030?
Martin Anness, Noak Hill, Wilts

In order to operate the CPU executes instructions each of which is measured by the number of cycles it takes to perform. A 40MHz processor can perform 40 million cycles per second.

However, the higher the chip number (68020, 68030, etc) the more efficient and numerous the available instructions are. Therefore to perform a certain operation on an '030 chip may require the use of six different instructions which between them require 100 cycles to complete.

The same operation on an '040 chip may only use two instructions which can be performed in 15 cycles.

Theoretically, if you could get a 68000 chip which ran at say a million MegaHerz, then it would be faster than a 60MHz 68040, but such chips are simply not available or feasible.

In the real world, however, you will find that the higher the MegaHertz, the faster the CPU, but a higher number CPU is always faster than the next one down, regardless of their MegaHertz rating.

Thanks to everyone for writing in – and don't forget, no problem is too small or silly for me to handle. After all, we've all been in the same position at one time or another.

Please remember, Q&A is for problems of a roughly technical nature. I can't give game playing tips, and I can't help get your money back from unscrupulous dealers, although we are pleased to receive letters on these subjects if they are addressed to Play to Win and Backchat. Send your questions to: Mat Broomfield, Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

BACKCHAT

If you want to vent your spleen or have a rant about anything Amiga-related, this is the place to do it. If you'd like to take part, drop us a line at this address: Backchat, CU Amiga, 30-32 Farringdon Lane, London, EC1R 3AU. This month's letter answerer: John Mather.

DO IT ALL!

Excellent! At last, the return of the DIY section! After the last series of DIY projects, I kept hoping for a sequel – and it's finally here.

The 16-bit sampler is a brilliant idea. As a keen musician, I would love to be able to own one, but all of the currently available boards either don't deliver the goods, are too expensive, or are not compatible with the A500 due to lack of slots (or all three!). Is it still possible to use it via existing 8-bit sampler software? Is it just a simple case of using the 16-bit jobbie in place of the 8-bit one in the parallel port, but routing the output through some 16-bit player? I'm a bit hazy when it comes to this sort of thing, but I assume that if the article goes ahead, then it will be explained in easy-to-understand, step-by-step CU AMIGA-speak?

Another idea might be to include the Maplin catalogue codes on the list of components, so it's easier to order them. Also, could you keep the costs of your projects below £40?!

Keep up the excellent DIY series and let's see some really exciting projects in the near future – I suppose a CRAY III is out of the question?!!

Stefan Dawson, Bradford

At the moment, there are no Amigas capable of replaying 16-bit samples without extra hardware. Any 16-bit samples you recorded would have to be played back through Clarity, the Sunrize AD1016 or some similar add-on. Alternatively, they could be ported to some synths and sample-replay units, so long as you could convert them to compatible file formats. When the DSP arrives, you should be able to play them through that without any trouble.

As for the Maplin codes, we'll be incorporating those into the very next issue and you can bet we'll try and keep our projects as cheap as possible. As for the Cray III, that was covered on a recent episode of Blue Peter, so it's a bit old hat now. It's amazing what you can do with some milk bottle tops and sticky back plastic.

BLAST FROM THE PAST

Isn't Tony Dillon, one of your reviewers, the one who gave the absolutely dire *Ninja Master* an overall score of zero way back in 1988 (and allegedly almost starting World War 3 in the process)? It's nice to see a familiar name!

Steven Scougall, Australia.

Sad but true, Tony Dillon is in fact... Tony Dillon. Over the years we've tried to tell him he's not wanted around these parts anymore, but he just keeps hanging around begging for work. And he *is* cheap! As for Firebird's *Ninja Master* it deserved everything it got (or didn't, as the case may be) – what a truly dire game!

NEW AMIGA

I have heard rumours about a new Amiga. It's both CD and floppy-based along with AGA graphics. It's said to be coming out before Christmas and is called an 'AMIGA CDC'. Could you, if possible, confirm this? I'm planning to buy a new Amiga and this sounds like the one I've wanted. If it's false, I shall buy an Amiga 1200.

Robert Kent, Banbury

As our exclusive news story five months ago revealed, Commodore are currently working on a new CD-compatible machine. No release date has yet been approved, but Commodore have already gone on record to say that any future release will be both floppy and CD-compatible. Don't hold your breath waiting, though.

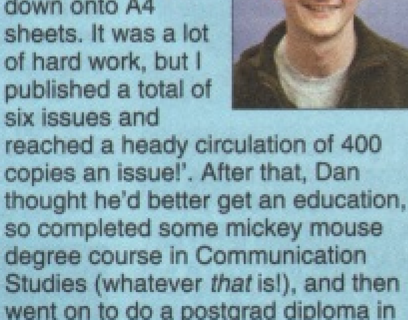
NO 'C' PARKER

I am very pleased with CU AMIGA, but one thing that disappointed me in the last issue (May 1993) was the missing 'C' tutorial by John Kennedy. I was really looking forward to the next part of this tutorial, but all I could find was the AMOS Guide Special. I understand that as you gave AMOS away last issue, you have to cover it in some depth, but you should consider the people who still want to learn to program in C. If you decide to con-

TEAM TALK

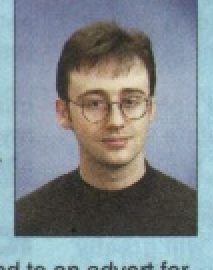
One of the most popular questions we're asked by readers is how to break into computer journalism. So we thought that we'd use this month's Team Talk to tell you how it's done.

DAN SLINGSBY



Dan began his career early, editing his own comics fanzine while still at school. 'I'm still fairly proud of it today,' he lies convincingly. 'I typed everything out on a typewriter and then cut and pasted it down onto A4 sheets. It was a lot of hard work, but I published a total of six issues and reached a heady circulation of 400 copies an issue!'. After that, Dan thought he'd better get an education, so completed some mickey mouse degree course in Communication Studies (whatever *that* is!), and then went on to do a postgrad diploma in Publishing Studies (another excuse not to get a job, no doubt!). From there, he got a position as deputy editor on a bicycle magazine and was then offered the dep ed position on CU AMIGA after buying then-editor Steve James copious amounts of alcohol. So you see kids, bribery can get you everywhere!

JON SLOAN



Unfortunately, Jon's off getting married this month, so we really can't ask him how he got involved with writing about computers. Never mind, we'll just make it all up instead then! No, actually, as far as we're aware, Jon started his journalistic career writing for some incredibly tedious law magazine. When he replied to an advert for a new deputy editor on CU Amiga he was an outrageously dull person, prone to wearing grey pin-striped suits and topping it all off with a bowler and brolly. Sad. Still, after a few beers down the City Pride (after all, we are journalists!), we realised the guy's potential, especially after his great joke involving a striptease artist, John Major and a lavatory brush which certainly can't be repeated here! Of course, it goes without saying that Jon is a fanatical Amiga user in his spare time, as that's probably the most important requisite for the job.

HEATHER TURLEY



Before joining the CU team Heather could be found beating the staff of former sister publication ST Review into line. Earlier in her illustrious career she was employed by giant publishers Reed international where she was an Editorial Manager. Luckily she saw the light and made the move to the sunshine pleasure beach that is Farringdon. Now she spends her days terrifying freelancers who are late with their work and reminding Dan that the working day finishes at six, not five in the evening as he claims. However all that's set to end in a couple of months as she drops her first sprog later this year. Soon the leather whip and thumbscrews which have become her trademark will be passed onto someone else, and if they slip Dan £20 they might be able to, by some quirk of fate, avoid getting one of these increasingly dodgy write-ups.

INSIDE INFORMATION

Sega's recent move to submit one of its games, *Night Trap*, to the British Board of Film Classification, resulted in the title receiving a mild 15 rating. This was despite Terry Dicks, MP, condemning the game as 'filth' and the Family and Youth Concern pressure group recommending that parents should not 'buy this game for your children. It is evil'. Produced specifically for the Mega CD, *Night Trap* involves saving a party of girls from blood-sucking Oggers (whatever they might be!) and is a truly dire example of interactive entertainment. About as offensive as flowery wallpaper.

tinue with John Kennedy's tutorial (and I hope you will), I would like to see some of the graphic commands covered.

The magazine is very well balanced on both technical and games coverage, but what is lacking is comparisons of similar software. For example: *CanDo* vs. *Hyperbook*, *ProPage 4.0* vs. *Pagestream 2.1*, *DPaint IV AGA* vs. *TVPaint*, *Bars & Pipes Professional* vs *KCS v3.5*.
Levent Oz, Istanbul, Turkey

Don't worry, the 'C' programming tutorial will return (and that's a threat!). We've already commissioned the next two instalments, it's just finding the space to fit them in that's the problem.

PAST ITS SELL-BY DATE

As soon as I heard that the A1200 was being launched, I raided my bank balance, and bought one. I think it's a superb machine. Progress is something that all of us have to be a part of and, unfortunately, there will always be those who feel cheated by it, in this instance those people who went out and bought an A600. Although I was lucky and only upgraded when the A1200 was released, I have also been stung by the relentless march of innovation and new products. I bought a Canon BJ-20 with my Amiga and two days after purchasing it I read a review in CU AMIGA that Canon has released a better printer in the form of the BJ-200. I would obviously have preferred to have the better printer, but I was too late. The same has happened with my car, CD, Stereo System, Video, Walkman, alarm clock, watch, joystick, hair dryer, etc. but people don't write and complain to Alarm Clock User when their latest prize buzzer suddenly becomes outdated only days after they bought it.
Dominic Hill, Worcestershire

An alarm clock is hardly a state-of-the-art home computer, but I get your point. Technology is a wonderful thing, providing you've got the cash to keep up with it!

ZORK IT ALL

I am writing to your magazine as an act of desperation. I've been a keen text-only adventurer since the early 8-bit days and still play them on my Amiga. Although they are now seen as outdated, I find them much more absorbing than most arcade-style games (and cheaper, too).

Basically, I would like to get in touch with any serious adventurers who have played/still play Infocom, Level 9 or Magnetic Scrolls, to exchange hints and tips. Being stuck in a 10-year-old adventure is a lonely experience! Here are some of the games I've played:

Dungeon Dragon	Level 9	100%
Lords of Time	Level 9	100%
Snowball	Level 9	95%
Red Moon	Level 9	Finished but poor score
Zork 1	Infocom	70%
Zork 2	Infocom	80%
Zork 3	Infocom	Don't Ask
Planetfall	Infocom	100%
HitchHikers	Infocom	350/400

Write to me at: 62 Cedar Avenue, Spixworth, Norwich, Norfolk NR10 3PA.
Jonathan Belson, Norwich.

I couldn't agree with you more about those old text adventures [Sad man! – Dep Ed]. Forgive me if I sound like a tragic anorak case, but today's graphic adventures seem to lack the magic of the Infocom/Level 9 games. Text adventures let you imagine what's going on, rather than presenting everything on a plate. A bit like a book, you can really let your imagination run riot.

DAVID COOPER IS MAD

I am writing with a query regarding a letter which you published in the April issue of CU AMIGA where David Cooper of Portsmouth expresses his delight in using the Kickstart 1.3 utility which you recently gave away. He says he can now run *Speedball 2* on his A1200. I, too, have an A1200 and have tried every combination of Display options, disabling CPU caches and the 1.3 emulator and *SB2* always crashes when the playing field is about to appear.

I am under the impression that the 1.3 utility is only useful on programs that run under Amiga Dos (i.e. which don't kill the system) as I can't get any non-DOS programs to work with this utility running that already didn't work. As I am probably the world's greatest fan of *SB2*, I would love to be able to play it again, so can you tell me if:
• David Cooper is mad
• I am mad
• *SB2* doesn't work under any of the above circumstances.

If *SB2* will not work on the A1200, can you tell me if the Bitmap Brothers or their publisher Renegade (I assume it is Renegade, as the game's original publisher, Mirrorsoft/Imageworks are now extinct) are planning to release a compatible version?
Ian Davis, Eastbourne

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AN 'OFF THE CUFF' SPECIAL EDITORIAL – DON'T BELIEVE THE HYPE

It's not often I feel the urge to get up on the old soap box and spout off about something. In fact, I'm usually quite a mellow chap, but when someone questions the integrity of the magazine I happen to edit, I tend to get a little bit defensive.

If you're a reader of these pages, you might remember a reply I gave to a letter that appeared in April's Backchat. In that reply, I stated that EVERY Amiga magazine reviews unfinished games software. By this, as I explained in my answer, I meant that because of the pressures of time, magazines will sometimes review a Beta test version of a game so that the review coincides with the release of the game in the shops. A Beta test version means that a game is virtually complete and is undergoing final play testing to uncover any bugs and flaws in the gameplay. We've done this before, and so have The One, Amiga Action and Amiga Power. Most importantly, so have AMIGA FORMAT!! I draw special emphasis to Amiga Format's name here, as they recently printed a rather scandalous denial of having ever reviewed an unfinished product. This just isn't true. By making such a statement, their editor, Marcus Dyson, is lying to his readers.

But how can I be sure that AF do review unfinished games, you may ask? After all, surely Marcus knows more about his own magazine than I do?! Apparently not. After Marcus' denial appeared in the June issue of Format (as well as the letters pages of *Computer Trade Weekly*, the industry's trade journal), I was inundated with phone calls from prominent software companies expressing astonishment at Marcus' letter. More importantly, one software house went a step further and confirmed, in writing, that Format had recently reviewed unfinished Beta test versions of their games. Perhaps Marcus, who has only recently been promoted to editor and is obviously still feeling his way in his new job, thought that nobody would call his bluff. Unfortunately, they have, and I think he owes both his own readers and those of every other Amiga mag an apology for attempting to pull the wool over their eyes.
AF's holier-than-thou attitude really gets on my nerves – why they can't bring themselves to admit that they review Beta test software is quite beyond me. After all, I'd rather warn readers about duff software before they've bought it than two months after they've coughed up the readies and wasted the best part of 30 quid.

TONY HORGAN



Tone was too lazy to get a proper job when he left school. Signing on and watching *Neighbours* lost its appeal after a while, though, so he decided to blitz the entire computer press with articles and begging letters. After a year of constant mailshots, he landed a job at Commodore Computing International, which soon spawned the UK's first Amiga mag, *Amiga User International*. The wanderlust took a grip after a four-year tour of duty with AUI, and he packed his bags for a big holiday, followed by a second spell of dole-queueing, but journalism was in his blood, and the lure of CU AMIGA was too much to resist.Okay then, that's a bit of a fib. The fact is, he was skint, and wormed his way onto CU with articles on how to make your Amiga sound bloody awful. Somehow he got offered a full time job and has lived to regret it every working day since!

NICK VEITCH



After being found washed up on a Welsh beach, Ulster-born Nick staggered to the nearest train station and attempted to make his way to London – where he'd heard the streets were paved with gold. Instead he was kidnapped by a wandering group of nomadic yak herdsmen and sold to a publishing company in Macclesfield, where he became editor of Amiga Computing. Not content with his lot, the Irish Rover eventually found his way to London where Dan Slingsby took pity on his haricut and brought him into the CU offices. Since then we haven't been able shift him, which is good thing as we don't know where else we could have got a Technical Editor who works for just two meals a day and a constant supply of Amigas to experiment on. Nick is also still bike-less, so if anyone's got a Honda Fireblade CBR going cheap, let him know.



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*Not released at time of going to press

David Cooper is a lying little toady who should be strung up by his [Snip! - Dep Ed]. *Speedball 2* is also one of my all-time favourite games, so I was also quite miffed when I couldn't get the game to work. Fear not, though, as Renegade promise an A1200-compatible version in the very near future. Hurrah!

TRUE CONFESSIONS

I have now had my Amiga for about six months and have discovered a whole new world. I used to own both a Megadrive and a Super Famicom, with about 20-25 games for each machine, but then I got bored and decided to sell them. It was then that I bought my Amiga and it has turned out to be the best move I have ever made. I used to spend 1-2 hours a day on my consoles, but now the Amiga takes up most of my spare time as there are just so many uses to which it can be put. Games such as *Sensible Soccer, Monkey Island* and *Pinball Fantasies* are far superior to anything on the consoles. Most console games can be completed in a couple of hours and are fairly pricey when compared to Amiga games. What's more, the Amiga can be used for much, much more. Have you seen *Art Alive* on the Megadrive? It's an incredibly sad paint program that comes nowhere near the quality of *DPaint* on the Amiga.

I am now going to purchase an A1200 as this will destroy the flimsy 16-bit consoles once and for all. And the rumours about the 32-bit console are even more appealing...

Paul Kain, London

Good for you Paul, but where on Earth did you get the cash for both a Megadrive and a SNES, PLUS 25 games for each system? I could have retired on that tidy little sum!

HOW OLD'S DAN?

All my friends, including myself, have been arguing about how old Dan Slingsby really is. The only thing we agree on is that he looks like he's fourteen. How old is he?!

Oyvind Vamnes, Norway.

Jon replies: Dan was so upset by your letter that he's gone off to sulk for the rest of the day. I don't know, these precocious teenagers are just so difficult to work with! Actually, let's have a small competition: We'll give a huge bundle of free software to the first person to write in and correctly guess just how old Dan really is (and believe me, it's fairly ancient if the truth be known). Send your entries to: It's About Time Dan Retired And Collected His Bus Pass Compo, CU AMIGA, 30-32 Farringdon Lane, London, EC1R 3AU.

THE LEGEND CONTINUES

I'd like to reply to Michael Rupprecht's letter in the April issue. It's rather good news actually: *Legend of Kyrandia* does work on an A1200! To play it you'll have to modify the startup-sequence with an editor by removing the line 'kyraa'. Hard disk users have to do the same to the file 'kyrandia' in the root directory of the Kyrandia bootdisk.

The problem is that 'kyraa' is in fact just a renamed add21k command. This command will absolutely not work on an A1200. When it is executed the top lines of the display corrupt and the machine crashes. So I advise you to remove the add21k from any startup-sequence of disks that contain this command.

I hope this will get some A1200-owners' disks back to work, as this just has to be one of the best adventures for some time.

René Osstdijk, BK Kruiningen, Netherlands

PRICE POINT

I read your review of the MBX1200 in the April issue of CU AMIGA. I was shocked, to say the least, that you only gave it a measly 78% rating. I bought an A1200 in December 1992 (after reading your review of the machine) and was very happy with it. Later I added a hard disk, but memory problems arose, so I needed an expansion. After looking around I chose the MBX1200z because it was the best one available.

The first thing I noticed in your review was the ridiculous price. I bought a 4Mb, 25MHz 68881 FPU complete with clock for the English equivalent of £276. This is nowhere near the £419.16 as stated. It might be an expensive bit of kit, but it's worth every penny. My Amiga now runs nearly twice as fast! Overall, I'd rate the board at a more-than-worthy 92%.

Laszlo T. Spoor, The Netherlands

The prices we list at the bottom of our reviews are the recommended retail price (RRP). Now, obviously, this is only the suggested price by the manufacturer, and retailers are at liberty to charge what they want. In the competitive Amiga market, many firms undercut each other and offer incredible savings on the RRP of a product. Still, you were incredibly lucky to get such a bargain.

WHERE HAVE ALL THE GAMES GONE?!

I bought an Amiga 1200 last November, so imagine my joy when it was announced that there would be '15 to 20 A1200-specific titles available before Christmas, all enhanced to take advantage of the new machine's advanced capabilities'. Well, I'm waiting – maybe they meant before Christmas '93?! OK, so we've got enhanced versions of *Zool* »

FROM SMALL ACORNS...

I read with interest your lead feature, 'Which Computer?', in the May issue of CU AMIGA, but feel I must point out some inaccuracies regarding the Acorn A3010.

You say that the computer's processor is called ARM2. This is not entirely true. The processor is in fact called the ARM250. The ARM2 processor was first put into Acorn machines in 1987 and is much slower. However, close inspection of the photograph showing the insides of the machine reveal the processor is an early ARM250. It is actually four chips on a board. One of these is similar to the ARM2, the other three are the Video Controller, Memory Controller and Input/Output Controller.

Under the pros and cons of each machine, you stated that the Acorn A3010 had 'reasonable sound' while saying that the A1200 had 'good sound'. I don't know about you, but I take 'good' to mean better than 'reasonable'. The Acorn machines have, as standard, eight channels, and each one can be in a multitude of stereo positions ranging from full left to full right. Does the Amiga A1200 have better sound capabilities than this?!!

You also claim that the A3010's user interface isn't customisable. I fail to see how you reached this conclusion. For instance, you can change icons that make up the window (eg. scrollbars, close icon, size icon, titlebar, etc) to your own custom sprites; change the way in which the windows are resized/moved; alter the colours; change the back-drop; and alter all the built-in sprites. Along the bottom of the screen – on the iconbar – there are some icons that appear every time you turn the computer on. In the windows, all files and programs are represented by icons. Some of these icons, along with the ones on the iconbar, are built-in to the operating system. By designing your own, with the same names, and loading this file when you turn on the machine (either automatically from the hard drive, or manually from a floppy disk), the icons will be placed with your own creations. I must point out that the software to design icons is built-in to the operating system and is available instantly, at the click of a mouse button.

Mr. A. Ayre (An Acorn User), Hull

FAIRER IMPRESSIONS

I read your article comparing the new Amiga models with their competitors and would like to point out a few mistakes so that your readers get a fairer impression of all the computers reviewed. As an owner of a 486-based PC, Archimedes, Amiga 500 Plus (soon an A1200) and an Atari STE, I feel I can take a more objective view of each machine's merits.

Let's start with the Archimedes. I am ashamed to admit it, but I think you've overrated the processing power. The Archie relies on its RISC processor for almost everything. In reality, this means when a game requires lots of sound, sprites and hardware scrolling the Archie does not cope too well in comparison to a standard Amiga. 3D games are, of course, much faster on the Archie – I doubt if even the A1200 will be able to match it in this department. The software base for the Archie is also quite considerable, with a wealth of productivity software available, plus a whole swathe of games.

The Falcon seems to be your number one target for abuse. You complain about its architecture as if it was all-important when, in reality, it just takes a small amount of performance away. The Falcon operates at 4mips whereas the 1200 operates at 2.5mips. The DSP works in parallel and can improve the processing power up to tenfold. It also has a blitter and hardware scrolling. There just isn't a comparison really. Multitos may look ugly and less versatile than Workbench 3.0, but it's a much easier, friendlier Graphic User Interface (GUI). Graphically, the Falcon is superior as it offers true colour which means thousands of colours on screen, fully animated without restrictions. You can't really compare HAM modes as they are just for static screens and only good for art programs. The Atari STE could put 4096 colours on screen by constantly interupting the graphics chip as it drew the screen. HAM means little – it's just a bodge to get a lot of colour on screen. In reality the 1200 has 256 colours on screen fully animated and that's what should be compared. Your Mac comparison is fair but it's not comparing the best machines. Someone with a little more money would find some excellent models at a slightly higher price.

By the way, I am not a Falcon fan. Atari seem to have released a prototype model onto the market. It's in an old ST box with little ST compatibility. It's priced above the mass market and quite honestly it could be one to two years before the Falcon gets any real software support and becomes sorted out and restyled. So why buy one just to get a nice spec.? I believe the 1200 is a superb computer which makes upgrading from the 500/600 to a 32-bit computer relatively painless thanks to good compatibility.

Martin R. Wilson, Yeovil

And the letters just keep on coming. You wouldn't believe the response we got to our Which Computer? feature. It seems that everyone has got an opinion on which computer is the best all-round model. You're certainly a picky lot! What's even more staggering, though, is the number of you who possess more than one machine!

»

LETTER OF THE MONTH

RESPECT IS DUE!

Dear Mr. Slingsby Sir,
An obsequious start I grant you, but I retain a natural respect for my betters and, as an Editor, you are surely higher up the ladder of Those Who Command Respect than the undersigned, who, whilst not being entirely humble, certainly knows his situation in life.[*I like this guy – Ed*]

The attainment of excellence is not easily achieved, but having been arrived at should certainly not go un-applauded, and having cast a knowledgeable and critical eye over your May '93 issue, I congratulate you on a publication that is well balanced, attractive and informative, and certainly a front runner in the current crop of Amiga mags.

If I may illustrate your superiority by an example, another Amiga mag carried a review in their May issue of *B17 Flying Fortress*, and awarded it 91%. Having bought the game, and found it a dodo, I was of the distinct opinion that the reviewer hadn't actually played it, but had written the review from the game manual, and even then had got it wrong. Fact: they showed a picture of the cockpit and stated and I quote, 'every one of these buttons (and dials) actually does something'. Truth: NONE of the buttons except flaps and gear do anything at all.

It was apparent that your reviewer, Tony Horgan, had taken the time to actually play the game, and I found myself in total agreement with all his conclusions. Personally, I had doubts about the game coding when I suffered the loss of an entire wing on three occasions by a short burst from a solitary German fighter. I decided to investigate further, and what follows are my findings – this next bit is good, I promise you!

I tested the seriousness and authenticity of the simulation by deliberately not taking off at the end of the runway at Alconbury, and found that by keeping the knots below 40, was able not only to trundle through the town, but also able to continue down the length of England, through London, and on to the south coast, where the plane obligingly tootled across the beach and then displayed a successful emulation of a duck by crossing the Channel. It eventually climbed onto French soil and continued its unholy quest to wreak havoc upon an entirely unsuspecting Hun base by the simple expedient of appearing at zero feet, undercarriage still down, by way of the local Autobahn.

An advantage of this sneaky technique is that one is not pestered by German fighters, who, not surprisingly, are busy searching at a much higher altitude. Nor is one bothered by flak, which suffers from the disadvantage of not being designed to explode at ground level. Having persevered in this fashion to your target, you can blast it with your guns to your hearts content. A tip: to speed up your sedate progress, press ALT-A.

Now back to the other Amiga mag's review: 'Very realistic flight sim...Much more technical than most flight sims...Flying Fortress is a game that will last and last which is why it earns itself a coveted Amiga Gold Award...' (!?)

Finally, my own opinion and conclusions: The CU review was by far the most observant and informative of the two, and by being so, was genuinely better placed to give a prospective game buyer the necessary real information of whether to keep his hard earned money in his wallet or not.

I think the game was wrongly named. *B17 Flying Fortress* is misleading. Far closer to the mark would be B17 Floating Mattress.
Tony Melling, Hyde, Cheshire

It's nice to know that you agreed with our reviewer's opinions on the game in question. We wouldn't admit to getting it right every time, but at least we try and let our readers know when a duff game comes along. By the way, want a job as a reviewer?

and *Sleepwalker*. Big deal. The extra-detailed backgrounds of Zool make it almost unplayable and the eight extra colours added to *Sleepwalker* are very noticeable I must say! Admittedly, there are a few productivity packages coming out, such as the excellent *DPaint AGA* and *Personal Paint*, but where are all the excellent games we were promised?! Can you provide us new A1200 owners with a release schedule for our machine, so we can start saving our pennies for when the truly mind-boggling stuff comes out?
Simon Mark Kelly, Liverpool.

Everyone got a little too enthusiastic about all the A1200-specific releases. We're still a few months off from seeing anything really special, but when we do I'm sure it'll knock your socks off. Keep an eye out for *Alien Breed 2* from Team 17, *The Legacy* from Microprose, A1200-versions of both *Odyssey* and *Inferno* from DID, and a souped up version of *James Pond III*. As always, we'll keep you up to date on all the latest releases.

DANGER, DANGER

This is not a letter of complaint, so please do not take it that way. While playing the May Coverdisk demo of *Desert Strike*, I came across a small (hopefully, for EA) bug in the game. The game plays fine using the 68000, but when I played it using an 030/882 I got this up on the screen:

FATAL ERROR
ADDRESS 000080854
followed by a number of data and address regs. When this came up the machine just locked up. No recover or a reset. I only wrote this because I read somewhere that if this kind of thing happens it's important to write to the programmer giving details. Since I don't have EA's address, I'm writing to you so that you'll be able to warn them of this bug.
William Vogelsang, Scotland

Thanks for the info. I wasn't aware of the bug in our coverdisk demo until I read your letter – I've played it for a couple of hours and not come across a thing. Still, it's a good job the EA coders took out their original Error Code messages, otherwise we'd probably be being sued right now!

GAMES PEOPLE PLAY

I have recently noticed that you review games! I was wondering what you do with them after you have reviewed them. I would guess that you must have quite a few of them, as you've been reviewing Amiga games for many years. In your latest issue, you reviewed 16 games, 17 PD titles and 16 other utilities and other programs. If you did this every year for five years, this would approximate to 2940 disks! Where do they all go?! Do you flog them to your friends for a quick fiver, or do they merely collect dust in some darkened corner of the CU AMIGA offices? I only ask this as I am a keen games fan and wondered if you could send me any you didn't want.
Liam Twokig, Eire

You've only just noticed we review games? Well done, Liam, for being so observant! There's obviously nothing wrong with your eyesight, is there?! And there we were hoping that nobody would notice them, even though they do take up more than a third of the mag!

Nice try to get your hands on some free software, by the way, but you'll have to crawl a little harder than that to curry favour with the notoriously tight-fisted CU AMIGA team. Actually, most of the games we receive go to the local OXFAM shop after we've finished reviewing them.

CLOCKWISE

There are lots of things I like about your magazine, so I won't dwell on those, but the things I think need changing include less game reviews and much more coverage being given over to the PD market.

Also, think of your average punter a bit more. When something comes on to the market that is good but obviously overpriced, tell us about it. For example, when the A4000/040 came out it was much too expensive, as will be proved by the soon-to-be-announced price drop. Good machine, but too expensive. The price of memory expansions for the A1200 is ridiculously high too, so why aren't you telling us?!

Why was no fuss kicked up in your magazine (or any of the others) about the lack of a backed up clock on the A1200 or the lack of ANY FORM OF DOCUMENTATION on AmigaDOS? This is a scandalous situation brought on by Commodore UK, and you should be shouting from the rooftops until they listen, as they sure don't listen to their customers. If anybody needs proof of this, just ring Commodore's almost ridiculously named Technical Support department. If you get past the 'Are you a dealer' repetition, you'll probably find that the person you're talking to knows less than you do.

Can you think of anyone foolish enough to buy a new PC without any form of documentation concerning MSDOS? No, neither can I, so why do we



The operation was a success: Later, the duck, with his new human brain, went on to become the leader of a great flock. Irwin, however, was ostracized by his friends and family and eventually just ambled south.

have to put up with it? I read your magazine every month, yet when I bought my A1200 in December I didn't know about the lack of documentation or the lack of the clock. WHY NOT?!!!
Steve Powell, Bracknell

Well, you do raise some interesting points. The price of the A4000 when it came out was not really too expensive. You should remember at the time that the pound was doing very poorly against the dollar and this forced up the cost of the machine. It would have been foolish for Commodore to introduce the machine at a lower price and then raise it a few months later.

As for the A1200: The unit we were supplied with (though not by Commodore) did come with all the documentation required, including the Workbench manuals. Whether this was a cynical ploy by Commodore or just our good luck we'll never know. The A1200 does not have a battery backed up clock. Neither did the A600, neither did the A500. Not having a clock isn't news. None of the other machines had a clock as standard, so why would you expect this one to have? If we had said there was a clock that might be a different matter, but as it turned out there were a great number of more important things that were missing (SCSI port, 16-bit sound, etc.) so these got more of a mention. If you really need a clock I suggest you turn to the 'Get Serious' pages. The A1200 doesn't have an internal tape-streamer either, by the way.

Oh, and our PD coverage will be increasing in the very near future.

PIRATES AHOY!

Your stance on piracy runs a little thin when you give games away to people who have finished a game before it is released. I refer to Gavin Kay of Sheerness. When did you receive his tip for the final level of *Flashback*? If it was before the release date I hope he is not receiving his prize. Either way, a statement is required on your policy.
J. Clarke-Rombard, Sheffield.

I'm afraid we've got to plead guilty on this one. The person who was compiling the hints and tips was of the opinion that *Flashback* had already been released, so he innocently included the solution. Once we'd spotted our mistake it was too late, as the issue had already gone to the printers. Needless to say, Gavin will not be receiving a prize for his efforts, and we've written to him expressing our feelings about software piracy. We hope our readers will accept our apology and you have my personal guarantee that such an incident will never happen again.

YOU'RE A PIRATE!

Your letters page often contains correspondence from software pirates and their customers. On each occasion you, quite rightly, state that piracy is theft and is immoral and illegal. I was therefore surprised to see *ReloKick1.3* on coverdisk 52.

As you know, all versions of the Amiga Kickstart ROM are still covered by copyright. Perhaps you could explain the legal position, since disk 52 contains the complete 256k 1.3 ROM (the actual file is in the devs directory). If you had a similar program containing Kickstart 2.04 or above, would you be happy to make it available?!

I hope you are not going to fall back on the excuse that this program is widely available from PD libraries and bulletin boards. After all, many 'cracked' games are widely available, but they are unlikely to be distributed by you.
Matthew C. McQueen, Glasgow.

***ReloKick1.3* appeared with the kind permission of Commodore. Case dismissed!**

FANTASTIC!

Scenario: CU AMIGA reviewer goes to buy a Mars bar: 'As I entered the shop I was absolutely GOBSMACKED!! There was an INCREDIBLE! deal on Mars bars. For a meagre £25 I could have 30 pieces of this ASTOUNDING!! confectionary. But these Mars bars were AWESOME!, they had a MASSIVE!! 15% extra, SUPERLATIVE! value. The graphics on the wrapper were UNBELIEVABLE! This sexy bit of kit is something that every Amiga user would be MAD!! not to own. I was so AMAZED!! at this offer that I refused to leave the shop as I was DESPERATE! to review one on site (as it wasn't half finished). This was until three ENORMOUS!! men in white coats arrived and put me in a jacket with HUGE! wrap-around sleeves on it. It was at this point that I noticed a PHENOMENAL!! offer on Walker's crisps. A WHOPPING!! 10% etc.'

Though I appreciate that the CU staff are genuinely enthusiastic about the Amiga and the products they review, I would be grateful if you could restrain yourselves from such excessive hyperbole.

P.S. Applause to Alan McMannus who manages to priovide excellent snooker entertainment and yet still find time to edit CU AMIGA.
Eric Goodburn, Birmingham.



Another batch of clubs comes under the CU AMIGA spotlight.

AMIGAMANIAC

We first mentioned Amigamaniac in the October '92 issue of CU AMIGA. Since then it's grown to become one of the biggest Amiga clubs in the country, with a 22-page magazine as its newsletter, currently circulating 800 copies. For an annual subscription of £14, you get the bi-monthly magazine and coverdisks, free classified advertising in the mag, special offers on selected hardware and software, discounts on the Amigamaniac PD library, access to a free technical advice hotline, and a free gift when you join. You can subscribe to just the magazine for £7.50, but you don't get the added benefits that come with club membership.

The magazine is well produced, with lengthy reviews of new products, illustrated with screenshots. Along with the reviews are bits of news, small features, competitions, classified ads and a letters page. Each issue has a coverdisk, sometimes even two! If you want to get involved with an Amiga magazine, this is as good a place as any to start.
Contact: Amigamaniac, 88 Blackbull Road, Folkstone, Kent, CT19 5QX, ENGLAND.

THE 24-BIT CLUB

The 24-bit Club was set up for the benefit of anyone who's into ray-tracing, 24-bit graphics, desktop video, DCTV, the Videotoaster and so on. The membership fee is £20, which buys you a quarterly magazine, with articles on animation, hardware and software, readers' views and occasional features.

If you need more images to work with, you can take your pick from the club's free library of clipart, which can be supplied in any format you like, whether its HAM8, GIF, HAME, IMPULSE, JPEG or TIFF. There are around 5000 files in the library at the moment, including categories such as nature, raytrace, space, fractals, cars, cats, boats, TV, maps, clipart, logos and abstract. 3D objects are also available in most popular 3D formats, and even whole animations are on offer, supplied in DCTV or HAM formats. The animations can also be supplied on VHS video if a blank tape and return postage is sent with the order. A phone helpline is at hand to solve your technical problems.

The club's library of images, objects and animations is also available to non-members at £4 per disk of data. Current members should note the recent change of address.
Contact: The 24-bit Club, 6 Skirsa Square, Floor 1, Cadder, Glasgow, G23 5DW, SCOTLAND.

CDTV USER GROUP

Have you got a CDTV? If so, the CDTV User Group is here to help you get the most from your machine. They publish a monthly news letter which covers all things CD, from reviews, to letters, tips, technical advice, and news on hardware and software. Plans are afoot to set up a software hire system for the members.

Although the club has only been going for a few months, it's already proving quite popular, and is steadily growing in size. A helpline is also being organised, which should be in operation by the time you read this.
Contact: CDTV User Group, 50 Averill Road, Highfields, Stafford, ST17 9XX, ENGLAND.

AM/FM

Bjorn Lynne, editor of the premier music disk mag AM/FM, has let us know that he's willing to pay for decent music-orientated utilities, for inclusion in the magazine. If you've written a useful utility that would interest fellow Amiga musicians, and fancy making a few quid from it, get a copy off to Bjorn, and you could see it distributed around the world on the next issue of the diskmag. Issues of AM/FM come on two disks, and are available from 17-Bit (tel: 0924 366982) at £2.50 each. See June CU AMIGA's Club Call for further information.
Contact: AM/FM, c/o Bjorn Lynne, Schleppegrellsgt 10, 0556 Oslo, NORWAY.

THE RIGHT NOISES?

Is the DSP just another hyped up disappointment, or will it turn out to be really rather good? Tony Horgan reckons it might be a bit special as the wizened one contemplates the merits of supposed wonder chip.

It's going to be all right. That's a bit of an understatement, but I do hate to gush. Okay then, it's going to be bloody brilliant! If you hadn't guessed, I'm talking about the Digital Signal Processor that Commodore have got lined up for the Amiga, pencilled in for release as an option on the A4000 some time in the latter half of this year, and rumoured to be included as standard on the new A5000.

So why all this excitement about a simple sound chip upgrade? Because it's so much more than just a sound upgrade, that's why. A DSP can happily process any digital signal, whether it's a sound sample, a video picture, or any other stream of ones and zeros. With a DSP at its heart, the 1200 and 4000 could wipe the floor with the competition.

MAKING AN IMPACT

So far, CD-ROM technology has failed to make the impact that was expected. It had been hyped up for years before it appeared in the high street, and when it did, it was a big disappointment. As far as CD-i and CDTV go, it's little more than a removable read-only hard disk, with some of the most tedious, non-interactive software ever devised. Where's the gosh-factor in that? The DSP could be just the thing to put the excitement back into computing.

You may be wondering why we haven't seen the Atari Falcon performing all kinds of wonders with its own DSP. The answer is simply that no-one has yet written any software to drive it. You could interpret this as good or bad news. Good news, in that it's leaving the door open for the Amiga to lead the way in sound and image processing, but bad in that it suggests a lack of enthusiasm from software developers.

Following the incident with the Arsenal top last month. Tottenham supporter Tony has been forced to go to ground after writing this column. He was last see heading to a rave in the Kent countryside armed with a bottle of Lucozade and a glow-in-the-dark headband. If anyone finds him please could they post him to the usual address.



SUPPORT

I don't think there's too much to worry about concerning the software support for the Amiga DSP. The Falcon has suffered because the DSP looks great on the surface, but beneath the sporty outside is the engine of a 50cc pizza scooter. To be more precise, the Falcon's DSP cannot get on with its business totally independently of the CPU, which makes for slower running and reduced power. The basic Falcon comes with only 1Mb of RAM, which severly restricts video processing, and limits its sound capabilities. In short, there's really not much that can be done with with a configuration such as that..

It's a different situation with the Amiga DSP. The chip itself is more powerful, and so is the operating system it's scheduled to run on. The 1200 has 2Mb of RAM as standard and runs a multitasking environment. The planned DSP will be able to act as another of the Amiga's custom chips, running its routines without laying a burden on the CPU. Whereas, for example, the Falcon would be unable to act as an effects unit and a sequencer simultaneously, it would be a simple job for a DSP-equipped A1200.

WHAT'S IN STORE

As the possibilities are so much greater, there should be a lot more interest from developers. Future revisions of *OctaMED Pro* and *Bars & Pipes Pro* will be supporting the chip, and no doubt all the main music, graphics and video packages will follow suit. Soon we should have CD-quality sampling and straight to hard disk recording, real-time effects on live video input, full motion video digitising, decent sound synthesis instead of just sample-playback, and just imagine what the demos will look like...

So does this mean the Amiga is going to replace STs and Macs in recording studios? It's unlikely – at least in the near future. The majority of sequencer-using musicians have settled for Cubase on the ST, and Sound Tools on the Mac for hard disk recording. If one complete music recording system was designed to run on the 1200, 4000 and 5000, which combined sequencing, effects processing, hard disk recording and 16-bit sampling in a modular software package, then we'd be in business.

To be honest, I don't much care if the DSP-equipped Amigas take off in audio-visual recording studios or not, so long as the software is still produced that lets me do what I want with it. Maybe that sounds awfully complacent, but it really doesn't make any difference to me if a bloke in a plush studio is using an Amiga, a ZX81 or a Cray III. I'm not on a mission to get an Amiga in every home, office and studio in the land – that's Commdore's job. With the right marketing strategies, and enough promotion, they could well achieve that. Of course it would be nice if the Amiga did replace the STs and Macs, but as I see it, it's far from essential to the growth of the new generation AGA machines. Obviously if the market for Amiga audio-visual software increases, the quality of the software is likely to rise too, but just because the ST is the current market leader when it comes to music, that hasn't lead to a lack of decent sequencing software for the Amiga. Rest assured, the Amiga has such a large user-base, which is continually upgrading, that developers won't be able to ignore the DSP, unless they want to be left behind in the dark ages.

The future's looking rosy, and sounding pretty noisy too. It won't be long now... CU

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320 X 400 NTSC or 320 X 512 PAL

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*262000 HAM-8	*4096 HAM	*256 COLOUR
*128 COLOUR	*64 COLOUR	*64 EHB MODE
*32 COLOUR	*16 COLOUR	*8 COLOUR
*4 COLOUR	*2 COLOUR	*HAM-E (*)

Display resolution up to 704 x 566:

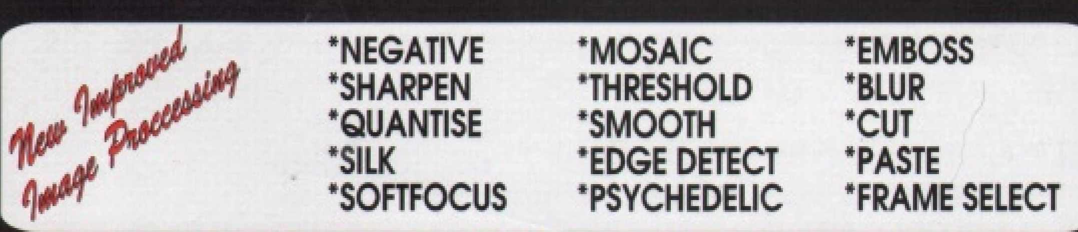
320 X 256	320 X 200	640 X 512
320 X 512	320 X 400	704 X 240
384 X 283	384 X 200	704 X 283
384 X 566	640 X 240	704 X 480
640 X 256	640 X 400	704 X 566

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